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FEAR OF FAILURE IN ENTREPRENEURSHIP: A REVIEW, RECONCEPTUALIZATION AND OPERATIONALIZATION

by

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A thesis submitted in total fulfilment of the requirements for the degree of
doctor of philosophy in entrepreneurship

Warwick Business School
THE UNIVERSITY OF WARWICK

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DECLARATION

Name and Surname: GABRIELLA CACCIOTTI

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I, Gabriella Cacciotti, declare that I am the legitimate author of this Thesis and that it has been composed by myself and has not been submitted in any previous application for any degree.

The work presented (including data generated and data analysis) was carried out by myself except in the following case: the interviews for the article "A Reconceptualization of Fear of Failure in Entrepreneurship" were carried out by a third person. However, the analysis of this data was entirely carried out by myself.

The article "Fear and Entrepreneurship: A Review and Research Agenda" has been published in the International Journal of Management Reviews in April 2015.

A former version of the article "A Reconceptualization of fear of Failure in Entrepreneurship" was presented at the Babson College Entrepreneurship Research Conference in 2013 and won the the National Federation of Independent Business award for excellence in research on the general topic of entrepreneurship. A more recent version has been accepted for a paper session at the Academy of Management Annual Meeting 2015.

The article "Entrepreneurial fear of failure: Scale Development and Validation" has been accepted for a paper session at the Babson College Entrepreneurship Research Conference 2015.

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Date: May 2015

ABSTRACT

In entrepreneurship, the fear of failure has been identified as a significant barrier to entrepreneurial activity. The Global Entrepreneurship Monitor (GEM), the world's largest study of entrepreneurial activity, defines the fear of failure as a strong inhibitor for seizing opportunities and transforming entrepreneurial intentions into entrepreneurial actions. Contrary to entrepreneurship research, psychological theory offers a counterintuitive prediction of the outcomes of fear of failure. While early achievement theories argued that fear of failure inhibits behavior, later psychological research has found fear of failure to be dualistic in nature, sometimes motivating individuals to act while at other times inhibiting such action. Although there is no unified theory on fear of failure within the psychology literature, the theoretical background of this construct in entrepreneurship appears even more fragmented. An examination of the existing entrepreneurship literature on fear of failure reveals that scholars have used different definitions and measures to explain this phenomenon and investigate its effects on entrepreneurial behavior. Because these measures refer to a different nature of the fear of failure construct, it is very unlikely that they converge to capture the same phenomenon. Therefore, a clear understanding of the nature and effects of fear of failure in entrepreneurship is needed. In this respect, this thesis addresses the research question of how fear of failure can be defined and measured within the entrepreneurial process. Three articles have been developed to answer this research question. In Article 1, the conceptual issues associated with the current status of the literature on fear of failure in entrepreneurship and the characteristics of the entrepreneurial setting that shape the fear of failure experience are discussed. Building on these conceptual observations, Article 2 adopts a qualitative approach to investigate the experience of fear of failure antecedent and concurrent to the entrepreneurial process. Sixty-five entrepreneurs and potential entrepreneurs have been interviewed to show that fear of failure can be defined as a complex combination of cognition, affect, and behavior. Finally, in Article 3 four studies are conducted to develop and validate a new measure of entrepreneurial fear of failure. Findings from these three articles shed light on the fear of failure construct in entrepreneurship, which emerged as a context-sensitive phenomenon.

Key words: Fear of Failure, Entrepreneurship, Entrepreneurial Process, Emotional Experience, Cognitive Appraisal

CHAPTER 1

1. INTRODUCTION

1.1 Background

Entrepreneurs have an important role in driving economic growth as they foster innovation, enhance employment, and generate wealth (Acs, 2006; Baumol, 1990; Hirschman, 1958). According to the Annual Report on European SMEs 2013/2014, "some 21.6 million SMEs in the non- financial business sector employed 88.8 million people and generated €3,666 trillion in value added" (Muller, Gagliardi, Caliandro, Bohn, & Klitou, 2014: 6). Since entrepreneurial activity has a vital role in supporting the dynamism of the modern economy (Schumpeter, 1934), it is instrumental for policymakers, who would benefit from an improved understanding of the support available as well as barriers to enterprise.

In the last decades, the promotion of entrepreneurship has stimulated multiple research programs aiming to detect the factors and processes that make entrepreneurial activity and success more likely to occur (Shane, Locke, & Collins, 2003). Researchers have delineated different personal and environmental factors that account for entrepreneurship. For instance, entrepreneurial behavior has been related to the presence of some personality traits and psychological characteristics such as need for achievement, risk taking, locus of control, pro-activeness, need for independence, and tolerance for ambiguity (e.g. Hornaday & Abound, 1971; McClelland, 1987; Solomon & Wislow, 1988; Timmons, Smollen, & Dingee, 1985; Zhao & Seibert, 2006). Successful engagement in entrepreneurial action has also been related to environmental conditions influenced by social, economic, legal, and technological factors (e.g. Aldrich, 2000; Gnyawali & Fogel, 1994). Personal and

environmental explanations to entrepreneurial behavior have produced a long list of facilitators of entrepreneurial activity and have contributed to the development and growth of entrepreneurship as research field (Davidsson, 2005).

Nevertheless, the need to inspire national economic policies and boost entrepreneurial activity has led entrepreneurship scholars to also focus on those factors that make entrepreneurship less likely to occur. Among these factors, the *fear of failure* has received considerable attention within entrepreneurship research. The Global Entrepreneurship Monitor (GEM), the world's largest study of entrepreneurial activity, defines the fear of failure as a strong inhibitor for seizing opportunities and transforming entrepreneurial intentions into entrepreneurial activity (Singer, Amoros, & Moska, 2015). In recent years, GEM reports have indicated that aspiring entrepreneurs identify the fear that they will fail as the top reason for not starting their own business (e.g. Amoros & Bosma, 2014; Bosma, Jones, Autio, & Levie, 2007; Minniti, Bygrave, & Autio, 2005; Singer et al., 2015). These findings support the idea that fear of failure is a barrier to entrepreneurship and, as such, must be eliminated. However, entrepreneurship research relying on the GEM data does not provide a clear explanation of the nature of the fear of failure phenomenon as well as the mechanisms through which it inhibits entrepreneurial activity. It therefore follows that a deeper understanding of the fear of failure phenomenon and the process through which it influences entrepreneurial behavior would help in boosting entrepreneurial activity around the world.

1.2 Research Gap

As a construct, the fear of failure is rooted in psychological research (e.g. McClelland, Atkinson, Clark, & Lowell, 1953). It was originally conceptualized as the motive to avoid failure as opposed to hope for success. Both motives have been studied as determinants of behavior people perform in achievement contexts. Starting a business involves entering an achievement situation which exposes individuals to success and failure. As such, the potential for success and failure activate the motive to achieve success and the motive to avoid failure (McClelland et al., 1953; 1958). While individuals with high hope for success are attracted by achievement contexts, those high in fear of failure are less likely to expose themselves to such situations (McClelland et al., 1953). Accordingly, fear of failure generally reduces the likelihood that individuals “see entrepreneurship as something they want to do (desirability) as well as something they can do (feasibility)” (Wood, McKinley, & Engstrom, 2013: 180). This explanation would confirm the detrimental role that fear of failure has for entrepreneurial activity.

However, psychological theory also offers a counterintuitive prediction of the outcomes of fear of failure. While early achievement theories argued that fear of failure inhibits behavior, later psychological research has found fear of failure to be dualistic in nature, sometimes motivating individuals to act while at other times inhibiting such action (e.g. Atkinson 1957; Elliot, 1999; Elliot & Church, 1997). Because of its interesting nature (Davis, 1971), the fear of failure has received increasing attention from psychological scholars and emerged as a program of research in its own right (Birney, Burdick, & Teevan, 1969). This resulted in new approaches and models aiming to explain why and how fear of failure leads to approach as well as avoid action (e.g. Dweck, 1976; Elliot, 1997; Conroy, 2001; Conroy & Elliot, 2004; Spielberger, 1972; Weiner & Kukla, 1970).

The proliferation of research on fear of failure also gave space to new conceptualizations of this phenomenon which speculate on the connection between dispositions and emotions. Motive dispositions represent stable tendencies to experience certain specific emotions given the appraisal of some experiential triggers (McClelland et al., 1953). Accordingly, in studying fear of failure, psychological researchers shifted their focus from the motive to avoid failure, to the activation of cognitive processes and affective states and how they work together to influence behavior (Conroy, 2001; Conroy & Elliot, 2004; Elliot & McGregor, 1999). This helped the elaboration of a multidimensional model of fear of failure which contributed to the popularity of the construct in psychological research and beyond (e.g., Conroy, Elliot, & Hofer, 2003; Mitchell & Shepherd, 2010; Wood et al., 2013).

Although there is no unified theory on fear of failure within the psychology literature (Conroy, Poczwardowski, & Henschen, 2001), the theoretical background of this construct in entrepreneurship appears even more fragmented. An examination of the existing entrepreneurship literature on fear of failure reveals that scholars have used different definitions and multiple theoretical perspectives to explain the nature of this phenomenon and investigate its effects on entrepreneurial behavior. For example, following a personological approach, some researchers have described fear of failure as a personality trait and equate it to individual risk aversion (e.g., Arenius & Minniti, 2005; Langowitz & Minniti, 2007). Others have emphasized its motivational aspect and define it as discrete emotion (e.g., Li, 2011; Welpe, Spörrle, Grichnik, Michl, & Audretsch, 2012). This conceptual ambiguity is aggravated by the use of multiple disciplinary perspectives to interpret the fear of failure phenomenon such as economics, psychology, and social-

psychology, which has also resulted in operational variation. This lack of consistency in the conceptualization and measurement of fear of failure signals how far we are from having a clear understanding of this construct and its relationship with entrepreneurial outcomes.

Furthermore, entrepreneurship is an uncertain, unstructured, and turbulent process (Davidsson, 2005; Shane et al., 2003). It is characterized by different phases (e.g. start-up, growth, and harvest) with different levels of uncertainty, resource demand, and dynamism. Although it offers the opportunity to succeed and fail, entrepreneurship cannot be simply compared to other achievement settings such as sports and education contexts. Because of the uniqueness of the entrepreneurial process, we cannot assume that established psychological models of fear of failure translate perfectly to the context of entrepreneurship.

Entrepreneurship is also an extreme emotional context (Cardon, Foo, Shepherd, & Wiklund, 2012:), where emotions are important in all the stages of the process (Baron, 2008). Unfortunately, from a psychological perspective, fear of failure has been mainly studied as an emotional reaction antecedent to the entrepreneurial process (e.g. Li, 2011; Welp et al., 2012). Since uncertainty and the potential for failure vary from phase to phase of the process, it is also likely that fear of failure can be experienced at each stage, including the recognition, evaluation, and exploitation of opportunities (Shane & Venkataraman, 2000). This suggests the potential to examine the effects of fear of failure on entrepreneurial outcomes that go beyond its influence on the primary decision to start a business. However, before undertaking further investigation on fear of failure within the

entrepreneurial process, entrepreneurship research needs to shed light on the nature of this phenomenon and provide a unified conceptualization and operationalization.

1.3 Research Question and Thesis Overview

In view of the above, the research question underlying this thesis is as follows:

how can fear of failure be defined and measured in entrepreneurship?

In addressing this research question, this thesis has to pursue three important objectives. First, it shall discuss the conceptual issues associated with the current status of the literature on fear of failure in entrepreneurship as well as the unique features of the entrepreneurial setting that can contribute to shape the fear of failure experience. Second, the thesis shall examine fear of failure as it is experienced by people engaged with different stages of the entrepreneurial process. In so doing, the nature of fear of failure in entrepreneurship can be precisely delineated. Finally, it shall use the inductive approach to develop a psychometrically sound measurement instrument of this construct and let the measure of fear of failure directly emerge from the entrepreneurship context.

1.4 Intended Contribution

This thesis contributes to the field of entrepreneurship by shedding light on the fear of failure phenomenon within the entrepreneurial process. Although there is great scholarly and policy interest in this topic, fear of failure is an understudied construct within the entrepreneurship literature. It is not clear whether it is a personality disposition that entrepreneurs should not have (e.g. Arenius & Minniti, 2005) or whether it is a feeling that leaves people discouraged and afraid that they will not succeed even before making the

attempt to start a business (e.g. Ekore and Okekecha 2012). Further, with most of the existing research focusing on factors that impact on the decision to start a business, there is limited understanding of how people experience fear of failure and respond to it throughout the entrepreneurial process. This thesis intends to address these research gaps by developing a richer conceptual understanding of the fear of failure phenomenon whilst also carrying out a series of empirical investigations to understand its nature and develop a more robust and inclusive measure to assess its effects on entrepreneurial outcomes.

This thesis also contributes to the fear of failure literature by discussing and testing the boundary conditions of existing theories of fear of failure. Although psychological research has recognized the importance of environmental features in shaping the fear of failure experience (Conroy, 2001), entrepreneurship researchers have failed to examine how the characteristics of the entrepreneurship context influence this experience. By recognizing the uniqueness of the entrepreneurship domain, this thesis highlights the limits of existing models of fear of failure and use the context-sensitivity of this phenomenon as an opportunity to extend the theory on fear of failure and increase its value as research tool (Whetten, 2009).

1.5 Overview of the Following Articles

The three objectives outlined above are likely to be best met by adopting the compilation of research articles as structure for the thesis (Paltridge, 2002). As such, the thesis includes three separate articles, which are followed by a general discussion and conclusion.

In Article 1, an extensive review of the literature reveals the sources of diversity and ambiguity that have affected the way scholars have theorized about the fear of failure construct so far. An examination of 44 empirical articles shows a clear dichotomy in the literature, with significantly more focus on fear of failure as a trait that distinguishes among people, than as a temporary state that is commonly experienced by many people. By bridging the personological and motivational approaches to fear of failure and discussing the features that make the entrepreneurship domain a unique achievement context, this article sets the stage for a re-conceptualization of the fear of failure phenomenon in entrepreneurship.

Building on these conceptual observations, Article 2 adopts a qualitative approach to investigate the experience of fear of failure antecedent and concurrent to the entrepreneurial process. An analysis of 65 interviews with entrepreneurs and potential entrepreneurs in the UK and Canada highlights that fear of failure is more complex than it is depicted in the entrepreneurship literature and cannot be captured as a single variable. Fear of failure emerges as a combination of cognition, affect and action that bridges the inner world of the entrepreneur with the challenging, uncertain, and risk-laden environment in which they operate (Mitchell, Randolph-Seng & Mitchell, 2011; Morris, Kuratko, Schindehutte, & Spivack, 2012; Sarasvathy, 2004). All of these components are brought together in a model that describes the process through which the experience of fear of failure is associated with entrepreneurial activity characterized in terms of approach versus avoidance. Findings emerging from this study confirm the theoretical interpretation of fear of failure as a context-sensitive phenomenon (Whetten, 2009).

Finally, Article 3 argues the inadequacy of existing measures of fear of failure in entrepreneurship to capture the complexities of this phenomenon. Following an established framework to guide the development of a psychometrically sound survey instrument (Hinkin, 1998), four studies are conducted to develop and validate a new measure of fear of failure in entrepreneurship. In Study 1, a list of items is inductively developed and subjected to content validation. In Study 2, exploratory factor analysis is conducted to assess multidimensionality and reduce the number of items. Study 3 aims to confirm dimensionality and establish convergent and discriminant validity for the instrument developed in Study 1 and 2. The fourth study replicates the factor structure of the newly developed measure and provides additional construct validity evidence by testing its criterion-related validity. Findings show that fear of failure in entrepreneurship is characterized by seven dimensions that are strongly influenced by the context. Construct validity evidence also shows that these dimensions can better assess the temporary state or experience of fear of failure in entrepreneurship than could existing measures of this construct, thus providing further support to the importance of adopting this new measure to capture the fear of failure phenomenon in future entrepreneurship research.

General results, key contributions, implications, and strengths and limitations of these three articles are summarized in a separate section which concludes this thesis. This section also offers a final reflection on the importance to study fear of failure in entrepreneurship and discuss several avenues for future research.

CHAPTER 2

2. FEAR AND ENTREPRENEURSHIP: A REVIEW AND RESEARCH AGENDA

2.1 Abstract

A systematic review of the entrepreneurship literature on fear published until 2014 highlights several key characteristics. First, the predominant focus in research examining the emotion of fear in entrepreneurship is on the specific concept of fear of failure. However, this literature shows a lack of precision in the conceptualization and operationalization of this construct. The impact of the experience of fear on individual cognition and behavior can be beneficial as well as detrimental. Despite this dualistic nature, to date, fear is examined as only a barrier to entrepreneurial behavior. Our review reveals a clear dichotomy in the literature, with significantly more focus on fear as a trait that distinguishes among people, than as a temporary state that is commonly experienced by many people. Defining fear of failure as a context-sensitive phenomenon, we explain the importance of focusing on the temporary cognitive and emotional experience of fear and use our conceptual observations as a platform to develop an agenda for future research.

“The entrepreneurial journey starts with jumping off a cliff and assembling an airplane on the way down.” (Reid Hoffman, founder of LinkedIn)

2.2 Introduction

Like base-jumpers, entrepreneurs take a plunge into uncertainty. This metaphor captures the leap of faith that surrounds the entrepreneurial process, and depicts the

decision to jump as an act of courage. In base-jumping as well as in entrepreneurship, courage is not the absence of fear; rather it is the ability to take action to achieve a worthy goal, in spite of the presence of fear (Kilmann, O'Hara, & Strauss, 2010). An emerging view is that entrepreneurship is an emotional journey (Baron 2008; Cardon, Foo, Shepherd, & Wiklund, 2012; Morris, Kuratko, Schindehutte, & Spivak, 2012; Schindehutte, Morris, & Allen, 2006) and there are important 'entrepreneurial emotions' (Cardon et al., 2012: 3) that can positively relate to entrepreneurial behavior such as entrepreneurial passion, optimism and vigour (e.g. Cardon, Wincent, Sing, & Drnovsek, 2009; Cardon, Zietsma, Saporito, Matherne, & Davis, 2005; Hahn, Frese, Binnewies, & Schmitt, 2012). Research has also identified emotional elements that can work against entrepreneurial tasks and entrepreneurial efforts such as grief, doubt, and fear (Foo 2011; Grichnik, Smeja, & Welp, 2010; Shepherd, 2003; Shepherd, McMullen, & Jennings, 2007; Shepherd, Patzelt, & Wolfe, 2011; Shepherd, Wiklund, & Haynie, 2009; Welp, Spörrle, Grichnik, Michl, & Audretsch, 2012).

Consideration of the role of fear in entrepreneurship opens unexplored avenues for understanding entrepreneurial motivation. Fear reflects the appraisal of threats in the external environment that causes change in brain and organ function, and that can be manifested in qualitatively different behavioral responses: approach the threat aggressively (fight), escape from the threat (flight), or be paralyzed in front of the threat (freeze) (Gray, 1971; Lazarus, 1991). The nature of fear and the diverse cognitive and behavioral mechanisms it triggers suggests that it could be a friend as much as a foe, by causing greater striving towards desired goals (Martin & Marsh, 2003). Some studies of the impact of fearful emotions on opportunity evaluation and entrepreneurial actions do not specify the object of the affective arousal of fear (e.g. Foo, 2011; Grichnik et al., 2010). In other cases,

studies explicitly relate the fearful emotional reactions to the possibility of failure of opportunity or outcome (e.g. Arenius & Minniti, 2005; Hessels, Grilo, Thurik, & van der Zwan, 2011; Koellinger, Minniti, & Schade, 2013; Mitchell & Shepherd, 2010; Wagner, 2007; Wennberg, Pathak, & Autio, 2013; Wood, McKelvie, & Haynie, 2014). Regardless of whether fear is treated in a general or specific sense, prior research has largely identified it as psychological barrier to entrepreneurship (e.g. Arenius & Minniti, 2005; Martins, 2004; Sandhu, Sidique, & Shoaib, 2011; Shinnar, Giacomini, & Janssen, 2012), emphasizing only its inhibitory effects on entrepreneurial action. This restrictive perspective on the role of fear has led researchers to think that fear is not or should not be part of the entrepreneurial journey.

Nevertheless, the possibility that fear may also stimulate greater striving represents an intriguing paradox worthy of examination (Mitchell & Shepherd, 2011). Fear can motivate increased engagement in a task as well as withdrawal from it (Atkinson, 1957; Elliot, 1997; Elliot & Church, 1997). However, the quality of that engagement, the goals that are chosen, and how they are pursued, are influenced by the nature of the motivation (Atkinson, 1957; Elliot, 1997; Martin & Marsh, 2003). Furthermore, the ways in which individuals respond to negative performance feedback and small setbacks are also influenced by the degree to which they are motivated by fear (e.g., Dweck & Leggett, 1988; Martin & Marsh, 2003). A more nuanced view of the effects of fear would reveal the different qualities of motivation and their potential outcomes for wellbeing and performance.

Unfortunately, fully understanding the role of fear remains difficult because of the diversity and ambiguity of definitions and components attributed to this construct within the entrepreneurship literature. This literature makes clear that we can examine affect in terms of both temporary states as well as enduring dispositions (e.g., Lazarus, 1991; Weiss

& Cropanzano, 1996). The distinction between fear as temporary emotional state and as stable disposition has important implications for how the construct is conceived and studied in entrepreneurship. Studies that assume a motivational orientation describe fear as a cognitive process linking environmental cues with psychological and behavioral outcomes (e.g., Li, 2011; Welpe et al., 2012). Studies that assume a personological orientation, describe the tendency to experience fear, or fearful attitudes to an object, as a stable disposition that distinguishes one person from another (e.g., Arenius & Minniti, 2005; Hessels et al., 2011; Wagner & Stenberg, 2004). Examining fear as a stable disposition versus temporary state reflects different research questions and might produce quite different inferences about the implications of fear for entrepreneurial actions and relevant outcomes. These issues highlight a need for greater clarity about the conceptual space and operationalization of this construct in entrepreneurship.

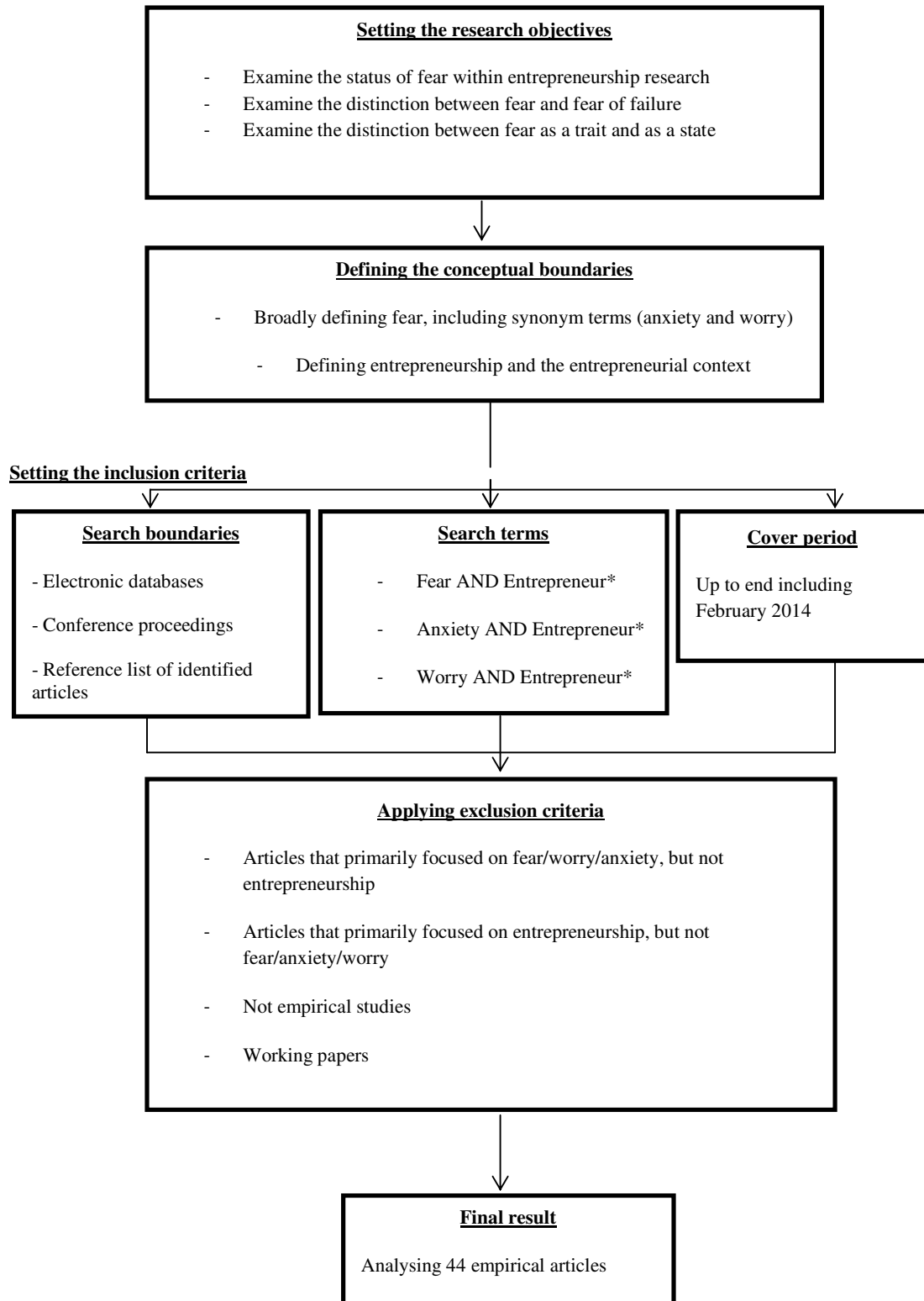
This article makes several contributions. We review the literature on fear and entrepreneurship to understand the status of this construct within our field. We focus on the effects of fear as well as on the theoretical underpinnings adopted to define the nature of fear in entrepreneurship. A thorough examination of the existing entrepreneurship literature demonstrates that among studies of fear in entrepreneurship, there is a pervasive tendency to focus on the fear of failure and its impact on the decision to start a business. However, avoidance of entrepreneurship as an occupational choice reflects a limited range of the potential behavioral and affective correlates of fear. We also acknowledge that inconsistency in the conceptualization and operationalization of fear of failure in entrepreneurship has affected the way we have theorized about the construct so far. Hence, we address the conceptual issues by bridging the personological and motivation approaches to fear of failure and discuss the features that make the entrepreneurship domain a unique

achievement context. In so doing, we set the stage for framing the experience of fear of failure as a context-sensitive phenomenon. Our contribution to the literature is moving away from the simplistic categorizations of fear as either a discrete emotional state or a trait, and proposing a reconceptualization of fear of failure that is consistent with the process-oriented perspective of entrepreneurship (Dimov, 2007). On the basis of these observations we propose a research agenda.

2.3 Method

We conducted a systematic literature review following the process suggested by Tranfield et al. (2003), Denyer and Tranfield (2008), and Macpherson and Jones (2010) and applied in recent review articles (e.g., Lee, 2009; Rashman, Withers, & Hartley, 2009; Wang & Chugh, 2014). We started the systematic review process by tracing the conceptual boundaries of the relationship between fear and entrepreneurship (see Figure 2.1). We defined fear as a discrete negative emotion elicited by the appraisal of potential or actual threats, which involves physiological and behavioral reactions (Gray, 1971). Although all negative emotions share the property of being reactions to harmful or threatening situations, we distinguish fear from anger, guilt, or shame because it is a separate and distinct reaction to specific forms of harm or threat with distinct patterns of neurological, physiological and behavioral correlates (Gray, 1971; Lazarus, 1991; Ortony, Clore, & Collins, 1988).

Figure 2.1 A Summary of the systematic review process



Each negative emotion involves a specific person-environment relationship that comes together with personal meaning and the appraisal process in the concept of core relational theme (Lazarus, 1991). For example, the core theme for fear is “the concrete and sudden danger of imminent physical harm” (Lazarus, 1991: 235), while for anger it is “a demeaning offense against me or mine” (Lazarus, 1991: 222). Within the psychology literature, the word fear has also been used to describe the appraisal of uncertain and existential threats, the core relational theme of anxiety. This association between fear and anxiety is due to the overlapping of their underlying brain and behavioral mechanisms (Barlow, 2000). Consequently, fear and anxiety are not necessarily presented as two distinct emotional processes, and are used interchangeably to describe the same psychological phenomenon.

Another term that is often associated with the fear-anxiety emotional state is worry. Unlike anxiety, worry is consciously directed at concrete concerns in daily adaptation rather than at existential sources of threat. However, it correlates with anxiety because it can be treated as an attempt to make existential anxiety concrete and external in order to better deal with the unpleasant emotional state (Lazarus, 1991). Drawing on this assumption, some studies started to conceptualize worry as a facet of anxiety and proposed that such facet could be expanded into different types of worries (e.g., Lacey, 1967; Liebert & Morris, 1967; Wigfield & Eccles, 1990). Although the idea that anxiety is composed by various worries was never completely addressed within the anxiety literature, it inspired the work of Birney, Burdick, and Teevan (1969) and their elaboration of different worries or dimensions associated with the fear of failure (Conroy, 2001a). Therefore, we recognized that fear, anxiety and worry have a common core of shared meaning and can be used with no distinction across individuals and contexts.

We define entrepreneurship as the process through which individuals recognize and exploit business opportunities by founding new ventures (Shane & Venkataraman, 2000). To limit our scope, consistent with Baron (2008), we focus on entrepreneurs who “make decisions, take actions, and identify opportunities individually rather than as part of a team or group” (328). We also considered three different descriptions of entrepreneurial context where opportunities are explored and explained: start-up entrepreneurship or new venture creation, opportunity exploration and exploitation in established firms, and general entrepreneurship, where it is not specified whether opportunity exploration and exploitation takes place in start-up or established firms (Ireland, Reutzel, & Webb, 2005; Reuber & Fischer, 1999). Furthermore, we assumed that fear can interfere with different entrepreneurial actions. Therefore, we did not constrain our search to specific phases of the entrepreneurial process (e.g. opportunity identification, evaluation, or exploitation).

We then searched leading electronic databases relevant to this topic such as ABI-Inform, Business Source Premier, and the American Psychological Association’s databases. These databases include comprehensive collections of generalist and specialist journals that most frequently publish entrepreneurship and/or psychological research applicable to the entrepreneurship domain (e.g., *Journal of Business Venturing*, *Entrepreneurship Theory and Practice*, *Entrepreneurship and Regional Development*, *Journal of International Business Studies*, *Academy of Management Journal*, *Journal of Applied Psychology*, and *Journal of Personality and Social Psychology*). We used the search terms “fear” or “anxiety” or “worry” AND “entrepreneur*” in titles and abstracts and covered the period up to and including February 2014. Our search terms (‘fear AND entrepreneur*’=53; ‘anxiety AND entrepreneur*’=13; ‘worry AND entrepreneur*’=7) are sufficiently inclusive to capture most relevant articles within the conceptual boundaries, and exclusive enough to

eliminate less relevant articles. This process resulted in 73 published articles. Among these, 43 did not focus on fear/anxiety/worry and entrepreneurship or were not empirical studies. Therefore, following our exclusion criteria (see Figure 2.1) we exclude these from our analysis.

To ensure that all relevant scholarly articles were included, we also considered the peer reviewed conference proceedings of the Babson College Entrepreneurship Research Conference and the Academy of Management Annual Meeting where peer reviewed work on this topic is likely to appear. This process resulted in 4 conference papers published in the *Frontiers of Entrepreneurship Research*. We also examined the reference lists of all studies found through our search to identify articles not discovered through a search of the databases. We found 11 additional published articles and 1 working paper, the latter of which we exclude because it had not undergone peer review. Therefore, our search results returned 44 empirical articles ('fear AND entrepreneur*' = 40; 'anxiety AND entrepreneur*' = 3; 'worry AND entrepreneur*' = 1) published between 1989 and 2014.

2.4 Fear and Entrepreneurship: Literature Analysis

Our analysis of the 44 empirical articles aims to reflect on the status of fear within entrepreneurship research. There are two important distinctions that characterize the current state of the existing literature: the distinction between fear and fear of failure and the distinction between fear as trait and state. We review them in the next sections.

2.4.1 Fear and Fear of Failure

The vast majority of empirical studies of fear in entrepreneurship (37 of 44) have addressed the fear of failure, although a small number (Crane & Sohl, 2004; Fisher, Maritz,

& Lobo, 2013; Foo, 2011; Grichnik, 2008; Grichnik et al., 2010; Rahim, 1996; Singh, 1989) focus on generic feelings of fear, anxiety, and worry. Since emotions always have a definite cause and a clear cognitive content which influences cognition and behavior (Baron 2008; Fisher et al., 2013; Forgas & George, 2001), individuals who are afraid are always afraid of something, and that *something* represents the object of affect¹ that guides its impact (Lazarus, 1991).

The source of fear does not have to be directly relevant to the task. For example, Foo (2011) and Grichnik et al. (2010) use experiments that involve the induction of emotional states from a judgement-irrelevant source to examine the impact of fear on opportunity evaluation. They found that fear, even when induced by external factors, influences individuals' judgement about the opportunity. These findings show that the fear influencing entrepreneurial judgement can be elicited by any type of source as the object to be evaluated (e.g. the opportunity) does not need to be the affect-inducing stimulus (Forgas, 2000). Nevertheless the majority of studies of fear in our review address fear of failure.

The identification of failure as an outcome to be avoided is deeply rooted in entrepreneurship research, where outcomes are often defined in terms of success and failure (Davidsson, 2003). For many years, researchers have emphasized the costs of business failure and directed the theoretical focus to understanding how entrepreneurs could achieve success and avoid failing, through effective opportunity identification, selection or development, and performance on entrepreneurial tasks and action (Kets de Vries, 1985;

¹ The word affect is often used as general label to refer to emotions and moods. However, emotions and moods differ in intensity, duration, and specificity (Frijda, 1986). While moods are relatively less intense, stable, and generated by unknown events, emotions are more intense, short-lived, and generated by specific events (Forgas, 1992). Research into the role of affect on decision making has shown that both moods and emotions impact cognitive processes according to some basic mechanisms (e.g. Hayton & Cholakova, 2012). We acknowledge that the term affect refers to both forms, and we use it when it is not necessary to specify between moods or emotions.

McGrath, 1999; Reynolds, 1987). Despite recent characterization of business failure as a learning opportunity (e.g., Cope, 2011), there is still a negative connotation attached to it (e.g., Landier, 2008; Vaillant & Lafuente, 2007). For example, social norms can render *losing* to be a shameful experience (Tezuka, 1997) and expose entrepreneurs to the stigma of negative social judgments (Goffman, 1963). This perspective on the role of failure in entrepreneurship may have reinforced a tendency to think that failing is what entrepreneurs fear the most.

While the research focus with respect to fear in entrepreneurship has been almost exclusively related to failure, it is not homogeneous with respect to conceptualization. Therefore, in the following section we focus on the different conceptualizations of this construct and evidence of impact on the entrepreneurial process.

2.4.2 Fear of Failure: Trait versus State

The literature can be divided into two approaches to the conceptualization of fear of failure. The first group of studies describe fear of failure as a stable disposition (e.g., Arenius & Minniti, 2005; Helms, 2003; Hessels et al., 2011; Ray, 1994; Wagner & Stenberg, 2004). A second, smaller group of studies defines fear of failure as emotional state resulting from the perception of environmental threats (e.g., Li, 2011; Patzelt & Shepherd, 2011; Welpe et al., 2012;). The first group takes a personological orientation, which refers to a stable propensity to experience fear of failure. The second group adopts a motivational orientation to the construct: fear is an emotional reaction, generated by the appraisal of specific events, and associated with certain psychological and behavioral responses. We analyse each group focusing on the concept of fear of failure that is adopted

and its theoretical underpinnings, and the main findings that stem from the study of the fear of failure-entrepreneurship relationship.

2.4.2.1 Personological Approaches to Fear of Failure

A personological approach seeks to examine individual characteristics that explain why people behave differently in similar situations. Several studies define fear of failure in terms of motive disposition to avoid failure. Grounded in achievement motivation theory (McClelland, 1953; 1958), the concept of motive dispositions refers to individuals' tendencies to achieve success and avoid failure that influence their level of aspiration, preference for risk, willingness to put forth effort and to persist in an activity (Atkinson & Feather, 1966). When applied to entrepreneurship a disposition to avoid failure is associated with the perceived risks involved in starting a business (Arenius & Minniti, 2005; Bosma & Schutjens, 2008; Rauch & Frese, 2007). Fear of failure is often defined as an indicator of risk aversion (e.g., Wagner & Stenberg, 2004) or as general attitude to risk (e.g., Langowitz & Minniti, 2007; Minniti & Nardone, 2007; Morales-Gualdron & Roig, 2005). A summary of the empirical studies adopting the personological approach is reported in Table 2.1.

Table 2.1 Fear of Failure and Entrepreneurship: Personological Approaches

Author(s)	Research Question	Fear of Failure Definition	Fear of failure Measure	Method and Sample	Main Results
Ray (1994)	What are the differences between entrepreneurs and non-entrepreneurs in the city-state of Singapore with regard to the risks involved in the decision to become an entrepreneur?	An aspect of risk: the potential loss of self-image and self-respect	Choice Dilemma Question:" If the business failed, there would be a number of adverse consequences, such as the loss of money. Listed below are a number of consequences (loss of self-image and loss of self-respect= fear of failure). Assign a probability to each occurring should your hypothetical business fail"	Choice Dilemma Questionnaire. 30 Chinese entrepreneurs and 44 Singaporean managers and engineers	Whereas job security is a critical variable that holds non-entrepreneurs to the status quo in Singapore, the potential loss of self-respect and self-image, the fear of failure, appears to be a force that drives Chinese entrepreneurs in Singapore to succeed
Volery, Doss, Mazzarol and Their (1997)	What are the triggers and barriers to business start-ups?	Not explicitly defined- psychological characteristic		Semi-structured interviews. 93 individuals with an intention to start (48 starters and 45 non-starters)	Fear of failure, as a barrier to establish a new business, is perceived to be minimal in this study
Helms (2003)	How do Japanese Managers view entrepreneurship as well as the challenges faced by their own personal self-employment?	Not explicitly defined. Associated to risk aversion		Open-ended survey. Ten managers	The lack of a risk taking culture as well as fear of failure will continue to hinder rapid new business start-ups in Japan in the coming future
Wagner and Stenberg (2004)	Why and how do regional environmental factors influence entrepreneurial activities and the entrepreneurial attitudes of the local population?	An indicator of a high degree of risk aversion	In survey: "Fear of failure would prevent me from starting a business	Survey part of the Regional Entrepreneurship Monitor (REM) Germany 2001. 1,000 people from 10 regions	Fear of failure in a region was negatively associated with start-up behavior
Arenius and Minniti (2005)	What are the variables significantly correlated with an individual's decision to become an entrepreneur?	An important component of the risk attached to starting a new business	In survey: "Fear of failure would prevent me from starting a business"	GEM survey 2002. 3,625 nascent entrepreneurs across 28 countries	Perceptual variables such as alertness to opportunities, fear of failure, and confidence about one's own skills are significantly correlated with new business creation across all countries and gender

Table 2.1 Continued

Author(s)	Research Question	Fear of Failure Definition	Fear of failure Measure	Method and Sample	Main Results
Morales-Gualdron and Roig (2005)	Which variables affect the new venture decision and what is the extent of their influence?	Attitude towards risk	In survey: "Fear of failure would prevent me from starting a business"	GEM survey 2001. 7,524 cases	A greater negative influence of the fear of failure can be seen in the group of emerging entrepreneurs born out of necessity than in the case of the group of emerging entrepreneurs through opportunity
Minniti and Nardone (2007)	Are differences in the rate of new business creation between men and women the result of personal characteristics of the individual and of the economic environment or the result of a universal and evolutionary phenomena?	Attitude towards risk	In survey: "Fear of failure would prevent me from starting a business"	GEM survey 2002. 116,776 observations from 37 countries	Opportunity perception is an important factor in explaining gender differences, though self-confidence and fear of failure seem to have the dominant effects
Langowitz and Minniti (2007)	What variables influence the entrepreneurial propensity of women and how those variables correlate with differences across genders?	Attitude towards risk	In survey: "Fear of failure would prevent me from starting a business"	GEM survey 2001. 24,131 observations	Subjective perceptual variables (e.g. fear of failure) have a crucial influence on the entrepreneurial propensity of women and account for much of the difference in entrepreneurial activity between the sexes. Specifically, women tend to perceive themselves and the entrepreneurial environment in a less favourable light than men across all countries and regardless of entrepreneurial motivation
Wagner (2007)	What are the differences between women and men in the ceteris paribus impact of several characteristics and attitudes on the decision to start a business in Germany?	Attitudes towards risk	In survey: "Fear of failure would prevent me from starting a business"	Survey part of the Regional Entrepreneurship Monitor (REM) Germany 2003. 12,000 observations	The difference between men and women in both the extent and the effect of considering fear of failure to be a reason not to start one's own business explains the gap in entrepreneurship by sex

Table 2.1 Continued

Author(s)	Research Question	Fear of Failure Definition	Fear of failure Measure	Method and Sample	Main Results
Vaillant and Lafuente (2007)	Do different institutional frameworks condition the influence of local fear of failure and entrepreneurial role models over entrepreneurial activity levels in a rural area with strong industrial and entrepreneurial history versus those that are not necessarily characterized by such a tradition?	A social-cultural trait which originates from social stigma to entrepreneurial failure	In survey: "Fear of failure would prevent me from starting a business"	GEM survey 2003. 843 and 4034 observations for Spanish rural and urban areas, respectively	The difference between entrepreneurial activity levels in rural Catalonia as compared to rural areas in the rest of Spain is in large part explained by the presence of entrepreneurial role models which favour entrepreneurial activity. Although the negative influence of social stigma to entrepreneurial failure is significant, there is no difference in such influence between rural and urban areas
Koellinger, Minniti, and Schade (2007)	What are the variables significantly associated with the decision to start a business?	A proxy for downside risk tolerance	In survey: "Fear of failure would prevent me from starting a business"	GEM survey 2003. 74000 individuals from 29 countries	Fear of failure reduces the propensity to start a business. Entrepreneurs are less prone than non-entrepreneurs to state that fear of failure would stop them from starting a business
Wood and Pearson (2009)	How do opportunity-related variables influence potential entrepreneurs' willingness to engage in entrepreneurship?	"The capacity or propensity to experience shame upon failure" (Atkinson, 1957, 360)	Adapted eight-item PFAI by Conroy (2001a)	Experimental design. 82 students from senior-level management courses	There is lack of support for the individual differences of general self-efficacy and fear of failure playing a significant role in the decision to engage in entrepreneurial action
Klaukien and Patzelt (2009)	How does job stress influence the decision to exploit an opportunity?	"The capacity or propensity to experience shame upon failure" (Atkinson, 1957, 360)	PFAI by Conroy (2001a)	Conjoint-based experiment. 80 entrepreneurs	Fear of failure moderates the relationship between job stress and decision to exploit an opportunity so that when fear of failure is low stress leads to a higher likelihood to exploit, and when it is high, stress decreases the likelihood to exploit
Autio and Pathak (2010)	What is the effect of social norms on the growth aspirations of entrepreneurs with exit experience in their subsequent entrepreneurial activities?	Attitude towards risk	In survey: "Fear of failure would prevent me from starting a business"	GEM survey 2000-2008. 902,533 observations from 63 countries	Previous entrepreneurial exit exercises a positive influence on individuals' entrepreneurial growth aspirations. Social group-level prevalence of fear of failure moderates positively this relationship and the social context influences entrepreneurial aspirations

Table 2.1 Continued

Author(s)	Research Question	Fear of Failure Definition	Fear of failure Measure	Method and Sample	Main Results
Canizares and Garcia (2010)	What is the role of gender differences among potential entrepreneurs, their psychosociological traits and the incentives and principal obstacles women encounter when initiating a business activity?	An obstacle to setting up a company	Rank "Fear of failure and Ridicule" in a list of obstacles to setting up a company	Survey. 1,400 Spanish students	Entrepreneurial initiative is lower among female students and that women are more likely to view the fear of failure as an obstacle to embarking on a business venture
Mitchell and Shepherd (2010)	What are the differences in entrepreneurs and how do these differences affect their images of opportunities?	The heart of images of vulnerability. It is defined as the desire to avert the perceived consequences of the "non-attainment of one's level of aspiration" (Birney <i>et al.</i> 1969, 3)	Twenty-five item PFAI by Conroy (2001a) and Conroy <i>et al.</i> (2003)	Experimental design of a decision-making task. 121 executives of technology firms	Fear of failure would seem to lead to an increased focus on the internally-focused desirability components of opportunities, and a decreased focus on certain externally-focused environmental aspects. Those with a higher fear of failure are less likely to distinguish between an opportunity when many are present and an opportunity when few are present
Wood and Rowe (2011)	Do differential levels of entrepreneurial success impact entrepreneurs' feelings of entrapment and is that relationship moderated by individual differences?	"The capacity or propensity to experience shame upon failure." (Atkinson 1957, 360)	Five-item scale developed by Conroy, Willow, and Metzler (2002)	Survey. 120 active entrepreneurs	Fear of failure and attitude towards risk do not moderate the venture success-entrapment relationship
Mitchell and Shepherd (2011)	What effect do the three dimensions of fear of failure (fear of devaluing one's self-estimate, fear of upsetting important others, and fear of having an uncertain future) have on the relationship between human capital and self-efficacy and the propensity to entrepreneurial action?	Fears of devaluing one's self-estimate, upsetting important others and having an uncertain future	Relevant items of PFAI by Conroy (2001a) and Conroy <i>et al.</i> (2003)	Experimental design of a decision-making task. 127 decision makers small-medium sized companies	Fear of failure impedes as well as motivates the propensity for entrepreneurial action

Table 2.1 Continued

Author(s)	Research Question	Fear of Failure Definition	Fear of failure Measure	Method and Sample	Main Results
Bosma and Schutjens (2011)	What are the factors that determine the variations in regional entrepreneurial attitude and activity?	Attitude towards risk and component of entrepreneurial attitude	In survey: "Fear of failure would prevent me from starting a business"	GEM survey 2001-2006. 127 observations over 17 European countries	Institutional factors and economic and demographic attributes determine the variations in regional entrepreneurial attitude and activity
Verheul and Van Mil (2011)	What determines the growth ambition of Dutch early-stage entrepreneurs?	Attitude towards risk	In survey: "Fear of failure would prevent me from starting a business"	GEM survey 2002-2007. 504 early-stage entrepreneurs	Fear of failure does not have a strong effect on the decision to grow the venture
Ozdemir and Karadeniz (2011)	What is the effect of demographic characteristics of individuals (age, gender, income level, education level, and work status) and their perceptions about themselves (networking, fear of failure, alertness to opportunities, self-confidence) on their involvement to the total entrepreneurial activities of Turkey?	Attitude towards risk	In survey: "Fear of failure would prevent me from starting a business"	GEM survey 2006-2008 and 2010. 9,601 observations	Fear of failure is not found to be a significant factor that influences the likelihood of being involved in the total entrepreneurial activities of Turkey
Sandhu, Sidique, and Riaz (2011)	What are the barriers that may hinder entrepreneurial inclination among Malaysian postgraduate students?	Attitude towards risk determined by high uncertainty avoidance	Five item scale adapted and modified from Henderson and Robertson (1999), and Scott and Twomey (1988)	Survey. 267 postgraduate students from various Malaysian universities	Fear of failure is an important barrier to entrepreneurial inclination but not the main one
Hessels, Grilo, Thurik, and Roy (2011)	How does recent entrepreneurial exit relate to subsequent engagement?	Attitude towards risk of failure	In survey: "Fear of failure would prevent me from starting a business"	GEM survey 2004-2006. 348,567 from 24 countries	The probability of entrepreneurial engagement after exit is higher for males, for persons who know an entrepreneur and for persons with a low fear of failure

Table 2.1 Continued

Author(s)	Research Question	Fear of Failure Definition	Fear of failure Measure	Method and Sample	Main Results
Nawaser, Shakhshian and Jahanshahi (2011)	What are the motivational and legal barriers of entrepreneurship development?	Motivational barrier	List of factors to rank in survey	Survey. All researchers who participated in the 'National Conference on Entrepreneurship Management and Regional Development' in 2009	Fear of failure and other motivational and legal barriers discouraged the development of entrepreneurship in Iran
Anokhin and Mendoza (2011)	What are the human agency filters that impede the translation of objective entrepreneurial opportunities into entrepreneurial activity?	Perceived vulnerability	In survey: "Fear of failure would prevent me from starting a business"	GEM survey 2002-2006. 68 countries	Fear of failure negatively moderates the relationship between perceived opportunities and entrepreneurial activity
Shinnar, Giacomini, and Janssen (2012)	Do gender differences exist in the way university students perceive barriers to entrepreneurship and what effect does gender have on the relationship between perceived barriers and entrepreneurial intentions across nations?	Attitude towards risk	In survey: "Fear of failure would prevent me from starting a business". Adopted from GEM	Survey. 761 university students from China, USA, and Belgium	Significant gender difference in the perceived importance of the fear of failure barrier is identified in the United States and Belgium (men perceiving these barriers as less important than women) but not in China. Moreover, gender has no moderating effect on the relationship between the perceived fear of failure barrier and the entrepreneurial intention for the three countries
Brixy, Sternberg, and Stüber (2012)	What are the determinants that impact the individual's decisions during the entrepreneurial process?	Attitude towards risk	In survey: "Fear of failure would prevent me from starting a business"	German part of GEM Survey 2002-2006. 17,000 observations	For entrepreneurs, fear that a business might not be successful is much lower for all stages than it is for non-entrepreneurs
Koellinger, Minniti, and Schade (2013)	Why do women own significantly fewer businesses than men although women's failure rates are not significantly different from those of men across countries?	Not explicitly defined. Associated to risk aversion	In survey: "Fear of failure would prevent me from starting a business"	GEM survey 2001-2006. 108,919 observations from 17 countries	Women are less confident in their entrepreneurial skills, have different social networks and exhibit higher fear of failure than men. After controlling for endogeneity, these variables explain a substantial part of the gender gap in entrepreneurial activity

Table 2.1 Continued

Author(s)	Research Question	Fear of Failure Definition	Fear of failure Measure	Method and Sample	Main Results
Noguera, Alvarez, and Urbano (2013)	What are the main socio-cultural factors that influence women entrepreneurship in Catalonia?	Associated with risk aversion	In survey: "Fear of failure would prevent me from starting a business"	GEM survey 2009-2010. 4,000 observations	Fear of failure and 'perceived capabilities' are the most important socio-cultural factors on the probability of becoming a woman entrepreneur
Wood, McKinley, and Engstrom, (2013)	Do source of unemployment, layoff in particular, and duration of unemployment stimulate entrepreneurial intent?	The capacity or propensity to "experience shame or humiliation as a consequence of failure." (Atkinson and Feather 1966, 13)	Five-item scale developed by Conroy, Willow, and Metzler (2002)	Survey. 100 unemployed individuals	Layoff and duration of unemployment are stimuli for higher entrepreneurial intent, and the source of unemployment-intent relationship is moderated by fear of failure and risk propensity
Khefacha, Belkacem, and Mansouri (2013)	What are the factors that promote entrepreneurship in Tunisia?	Attitude towards risk	In survey: "Fear of failure would prevent me from starting a business"	GEM Tunisia survey 2010. 1,966 cases	Fear of failure negatively influences the decision to start-up
Wennberg, Pathak, and Autio (2013)	How culture moulds the effects of individual's self-efficacy and of fear of failure on entrepreneurship?	Attitude towards risk	In survey: "Fear of failure would prevent me from starting a business"	GEM survey and GLOBE study 2001-2008. 324, 566 observations from 42 countries	The negative effect of fear of failure on entry is moderated by the cultural practices of institutional collectivism and uncertainty avoidance
Wood, Mckelvie, and Haynie (2014)	How are opportunity beliefs individualized and shaped?	"The capacity or propensity to experience shame upon failure" (Atkinson and Feather 1966, 13)	Five-item scale developed by Conroy, Willow, and Metzler (2002)	Conjoint experiment. 120 entrepreneurs for a total of 2880 decisions	Fear of failure moderates the relationship between founding rates and investment decision and that between dissolution rate and the decision to invest

With few exceptions (Ozdemir & Karadeniz, 2011; Ray, 1994; Verheul & Van Mil, 2011), the empirical evidence from this perspective reveals that between-individual differences in fear of failure are related to differences in entrepreneurial behavior (e.g., Arenius & Minniti, 2005; Helms, 2003; Sandhu et al., 2011; Shinnar et al., 2012; Wagner & Stenberg, 2004; Verheul & Van Mil, 2011). Several studies include fear of failure among the variables influencing the occupational choice of individuals (Arenius & Minniti, 2005; Langowitz & Minniti, 2007; Minniti & Nardone, 2007; Morales-Gualdron & Roig, 2005; Wagner, 2007;). They all report that fear of failure exerts a negative impact on the decision to become self-employed (Arenius & Minniti, 2005; Morales-Gualdron & Roig, 2005).

Negative influences of fear of failure have been also examined with respect to entrepreneurial intention (Shinnar et al., 2012), subsequent re-engagement in entrepreneurship (Autio & Pathak, 2010; Hessels et al., 2011), and growth ambitions of early-stage entrepreneurs (Verheul & Van Mil, 2011). In their comparative study of entrepreneurial intention across China, US, and Belgium, Shinnar et al. (2012) found that perception of fear of failure decreases the intention to become entrepreneur. Evidence of this negative relationship was found in all three countries. Using data from the Global Entrepreneurship Monitor (GEM), Hessels and colleagues (2011) report that the probability of entrepreneurial engagement after exit is higher for individuals reporting lower level of fear of failure. With exception of the non-significant findings of Verheul and Van Mil (2011), this literature generally suggests that fear of failure inhibits entrepreneurship.

Viewing the same phenomenon from the other direction, there is evidence that fear of failure varies between entrepreneurs and non-entrepreneurs. Brixy, Stenberg, and Stuber (2012) present evidence that the level of fear of failure distinguishes entrepreneurs from the

rest of the population. Similarly, Arenius and Minniti (2005) report that fear of failure is higher among non-entrepreneurs. Noguera, Alvarez, and Urbano (2013) note that women have a higher degree of fear of failure than men. In fact, researchers often report variation in fear of failure between men and women, and partially attribute observed discrepancies in entrepreneurship rates to differences in fear of failure (Koellinger et al., 2013; Langowitz & Minniti, 2007; Minniti & Nardone, 2007; Noguera et al., 2013; Wagner, 2007; Wagner & Stenberg, 2004). However, these studies do not provide an explanation for the source of group level differences.

A significant limitation within this literature is the extensive reliance on Global Entrepreneurship Monitor (GEM) data (e.g., Brixy et al., 2012; Hessels et al., 2011; Wagner & Stenberg, 2004;) which measures fear of failure using a single item: “fear of failure would prevent me from starting a business” (Reynolds et al., 2005). Asking people whether fear of failure would prevent them from starting a new venture dictates the negative relationship between the perception of fear and the decision to start. It is also unclear whether individuals indicating disagreement do not perceive fear of failure, or perceive it but continue to engage in entrepreneurial action.

Further limitations of these studies rest in the conceptual and empirical inconsistencies in the relationship between fear of failure and risk taking behavior. The fundamental assumptions, implicit in much of this literature, are that the fear of failure is intimately related to risk-taking propensity and that risk-taking propensity is, in turn, associated with entrepreneurship (Atkinson, 1957; Brockhaus, 1980; Kihlstrom & Laffont, 1979; McClelland, 1961). However, dispositional fear of failure and need for achievement were originally theorized as opposing determinants of risk-taking behavior (Atkinson, 1957). In an effort to avoid negative consequences individuals high in fear of failure will prefer very

safe tasks (where success is easily obtainable) or very difficult ones (where failure is less likely to be attributed to personal incompetence). In contrast, individuals high in need for achievement will prefer to bear a moderate degree of uncertainty and choose goals with intermediate risk and challenge (Atkinson, 1957; McClelland, 1961; McGregor & Elliot, 2005). Research in other contexts suggests that fear of failure can also stimulate greater striving, since achieving success is often the best strategy to avoid failure (Birney, Burdick, & Teevan, 1969; Martin & Marsh, 2003). Rather than being inhibited or avoiding challenge and risk, individuals high in fear of failure might, under certain conditions, be motivated to more actively engage in entrepreneurial behaviors. This suggests a more complex, non-linear relationship between fear of failure and risk taking than has been adopted in existing research.

Seven studies have gone beyond the unidimensional conception of fear of failure as risk aversion to examine the impact of fears relating to diverse components of failure (Klauckien & Patzelt, 2009; Mitchell & Shepherd, 2010; 2011; Wood et al., 2014; Wood, McKinley, & Engstrom, 2013; Wood & Pearson, 2009; Wood & Rowe, 2011). These studies are still of the personological variety, as they define fear of failure as an individual difference in the capacity or propensity to experience shame upon failure (Atkinson, 1957: 360). However, they refer to a more recent multidimensional conceptualization of fear of failure (Conroy Willow, & Metzler, 2002). Conroy and colleagues identify five sources or dimensions of fear of failure: 1) experiencing shame and embarrassment, 2) devaluing one's self-estimate, 3) having an uncertain future, 4) important others losing interest, and 5) upsetting important others (Conroy et al., 2002; Conroy, Metzler & Hofer 2003). Fear of failure along these dimensions is viewed as a stable disposition that moderates the effect of contextual factors,

resources, environmental cues and opportunities on entrepreneurial attitudes, beliefs and behaviors.

Klaukien and Patzelt (2009) examine the relationship between experienced job stress and opportunity exploitation decisions. They found that, for low (high) level of fear of failure, stress leads to higher (lower) likelihood to exploit an opportunity. Wood et al. (2014) report that fear of failure mitigates the expected positive effects of founding rates on entrepreneurial attitudes while it amplifies the negative effects of dissolution rates on opportunity pursuit. Wood et al. (2013) report that fear of failure moderates the effects of situational cues such as layoff, and unemployment duration on entrepreneurial intentions. Mitchell and Shepherd (2010) provide evidence that individuals' self-esteem and their fear of failure exert distinct influences on the evaluation of opportunities. All of these studies provide general support for the proposition that fear of failure defined in terms of individual differences is associated with the interaction of individual with context. By examining the moderating effects of stable dispositions on the interpretation of context, these studies offer some insights into the relationship between stable dispositions and more malleable beliefs and attitudes.

Of all of the studies reviewed so far, only one has suggested the possibility of a positive influence of fear on entrepreneurial motivation. Mitchell and Shepherd (2011) report that across different dimensions of fear of failure the direction of the observed effects varies. They report that some sources of fear (fear of devaluing one's self-estimate, fear of having an uncertain future) has an inhibitory influence on behavior, while the fear of upsetting important others has a positive influence on the decision to pursue an opportunity. This may be the first evidence within the field that fear of failure can produce both approach and avoidance behaviors.

The seven studies just highlighted all measure fear of failure with Conroy et al.'s Performance Failure Appraisal Inventory (PFAI) (2001; 2002; 2003). The PFAI assesses individuals' beliefs along five dimensions (Conroy et al., 2002; 2003). The measure appears to address stable beliefs with questions such as “When I am failing, I worry about what others think about me” and “When I am failing, it upsets my ‘plan’ for the future”. Therefore, studies implementing this measure will inevitably be examinations of stable individual differences rather than being able to shed light on the transient emotional states and associated cognitive processes.

2.4.2.2 Motivational Approaches to Fear of Failure

Rather than describing it as a stable disposition, a second group of studies describe fear of failure in terms of temporary emotional state (Ekore & Okekeocha, 2012; Patzelt and Shepherd, 2011; Welpe et al., 2012). Building on appraisal theories of emotions (e.g., Ellsworth, 1991; Lazarus, 1991; Lazarus & Smith, 1988; Learner & Keltner, 2001; Smith & Ellsworth, 1985), these studies conceptualize fear of failure as a negative emotion resulting from the anticipation of the possibility of failure (Li, 2011; Patzelt & Shepherd, 2011; Welpe et al., 2012), and define it as a “feeling that leaves a person discouraged and afraid that he or she will not succeed even before making an attempt” (Ekore & Okekeocha, 2012: 516).

The basic premise of appraisal theories is that emotions are adaptive responses, which reflect appraisals of specific events in the external environment that are significant for the organism's well-being. In this respect, the experience of emotions involves affect and perceptions of meanings that “are bound together at a moment in time, producing an intentional state where affect is experienced as having been caused by some object or

situation” (Barrett, Mesquita, Ochsner & Gross, 2007: 375)². As such the emotional experience emerges from a process of appraisal and is associated with psychological and behavioral reactions (Lazarus, 1991). Recognizing the centrality of affect in motivation and decision-making (e.g., Damasio, 1994; Isen, Nygren, & Ashby, 1988; Loewenstein Weber, Hsee, & Welch, 2001), entrepreneurship studies (reported in Table 2.2) examine how this emotional experience influences entrepreneurial decision-making processes.

² This definition highlights the connection between the experience of emotion and the emotional state. An experience involves the assignment of meaning to external and internal affective cues which take on consistent themes (Lazarus, 1991). When this happens, an emotion is triggered and results in "a distinct kind of feeling state" (Barrett, 2006: 22). We therefore refer to fear as state and experience interchangeably throughout our discussion.

Table 2.2 Fear of Failure and Entrepreneurship: Motivational Approaches

Author(s)	Research Question	Fear of Failure Definition	Fear of failure Measure	Method and Sample	Main Results
Patzelt and Shepherd (2011)	Do self-employed more readily accept the negative emotional consequences of their career choice and/or learn to cope with these emotional consequences?	A negative emotion	Self-report measure of emotional experience developed in the study	1996 General Social Survey (GSS) of the Inter-University Consortium for Political and Social Research (ICPSR). 2700 US citizens	Over and above the effects of positive emotions, the self-employed experienced fewer negative emotions than those who are employed, contingent on their regulatory coping behaviors
Li (2011)	How do people's feelings about the outcomes of a venture affect their subjective judgment on the value and probability of founding a new business?	A negative anticipated emotion	Bosman and Winden's (2002) emotion lists	Simulation heuristic method (Kahneman and Tversky 1982). 217 Chinese students	Those who show less fear of failure and lower surprise for the success tend to view a new venture as an opportunity
Welpe, Sporrie, Grichnik, Michl, and Audretsch (2012)	How do people's feelings about the outcomes of a venture affect their subjective judgment on the value and probability of founding a new business?	A negative anticipated emotion	Six items from the PANAS-X fear subscale (Watson and Clark 1994)	Questionnaire-based experiment. 138 MBA and entrepreneurship students	Fear, joy, and anger influence evaluation's effect on exploitation with higher levels of fear reducing and higher levels of joy and anger increasing the positive impact of evaluation on exploitation
Ekore and Okekeocha (2012)	Why are many university graduates in Nigeria reluctant to start a business even when the opportunity exists?	Feeling that leaves a person discouraged and afraid that he or she will not succeed even before making an attempt	Fear of entrepreneurship (fear of failure, fear of success, fear of criticism, and fear of change) scale developed for the study	Survey. 1100 university graduates in Nigeria	Core self-evaluations (locus of control, neuroticism, generalized self-efficacy, and self-esteem) influence fear of entrepreneurship. Pre-entrepreneurial intention, attitude, and capacity significantly predict fear of entrepreneurship

According to this perspective, the experience of fear of failure as a temporary emotional state decreases an individual's propensity to start a venture (Li, 2011; Patzelt & Shepherd, 2011; Welp et al., 2012). Li (2011) suggests that fear of failure is a feeling about the outcomes of a new venture, which affects people's judgment of the value and probability of founding a new venture. Welp et al. (2012) report that experienced emotions, including fear, moderate the decision to exploit entrepreneurial opportunities. Drawing on the literature on role requirements and role characteristics, Patzelt and Shepherd (2011) show that for a sample of 2700 US citizens, entrepreneurs report less negative emotions than employees, but this is contingent on their self-regulatory coping behaviors. Ekore and Okekeocha (2012) note that fear of failure leaves university graduates discouraged in starting a business even when the opportunity exists. In summary, empirical evidence from research focusing on fear of failure as an emotional state leads to similar conclusions to the previous literature: fear of failure serves to inhibit entrepreneurial behavior.

With the exception of Ekore and Okekeocha (2012), the designs of these studies do not differentiate fear from other negative emotions such as irritation, anger, contempt, sadness, shame, and disappointment, and measure it using combined scales such as the PANAS scale (Watson & Clark, 1994). This operationalization focuses on affect rather than emotion and ignores the unique features of each specific emotion (Lazarus, 1991). Emotions differ in important aspects such as appraisal, antecedent events, behavioral responses, and physiological correlates (Lazarus, 1991). All of these aspects interact in a process from which unique emotional experiences emerge. This represents a significant limitation in the current literature in that it does not differentiate fear from other negative emotions.

2.4.2.3 Summary

We draw two general conclusions from the research on fear of failure and entrepreneurship conducted to date. First, most of the evidence indicates that fear of failure is a barrier to entrepreneurship. With few exceptions (Mitchell & Shepherd, 2011; Ray, 1994), the entrepreneurship literature on fear of failure has ignored the possibility for it to also drive greater effort, affect goal choices or goal pursuit. However, this presumption that fear of failure is always, or is only, an inhibitor of entrepreneurial action should be accepted with caution for at least two reasons. Firstly, there are concerns over the construct validity of existing measures of fear of failure. Secondly, most of the research has focused only on the decision to start a business, limiting our knowledge of how people experience fear of failure and cope with it throughout the entrepreneurial process. As noted by Atkinson (1957: 364): a person who perceives himself or herself constrained to remain in an achievement situation finds “only one path open to him to avoid failure—success at the task he is presented.” The experience of fear by a practicing entrepreneur may have entirely different outcomes than for a potential or nascent entrepreneur. Do fears of failure experienced at different stages cause any positive outcomes such as greater striving towards entrepreneurial goals? Does the experience of fear throughout the process have negative consequences for entrepreneurial task performance, individual satisfaction or wellbeing? Such questions have yet to be examined.

The second conclusion is that fear of failure has been treated as either a stable disposition or as a temporary emotional state, with little or no cross-citation among these streams of research³. On the contrary, within the psychology literature, achievement

³ This resulted from a cross-citation analysis of these articles supported by UCINET software (see Appendix A). The analysis aimed to understand the network of citation of the personological and motivational approaches. The subject clusters that emerged reflect our analysis of the literature on fear of failure and

motivation theory and appraisal theory of emotions are linked in fundamental ways to reflect the interdependence between personological and motivational approaches to explaining fear of failure and associated psychological processes and behaviors (see Conroy, 2001). Motives represent individuals' dispositions to strive for goal attainment (e.g. avoid failure or obtain success), and provide the individuals with a basis for creating expectations and cognitive beliefs about personal harms or benefits in the external environment. When external circumstances are appraised (evaluated) as being harmful or beneficial to personal goal attainment, the emotional process is activated and prepares individuals to respond with impulsive behavior. However, before following their action tendencies, individuals engage in coping processes, strategic actions or thoughts that can prevent harm, ameliorate it, or produce additional harm or benefit. This would explain why fearful individuals approach a potentially harmful situation, despite being predisposed to avoid such a situation. The failure of the entrepreneurship literature in establishing the connection among motives, appraisal, emotional experience and behavioral responses resulted in a poor understanding of the fear of failure phenomenon, which has certainly hampered our ability to observe its actual consequences. If the role of fear of failure in entrepreneurship is clouded by unresolved conceptual issues, then, it is time to find an answer to this problem in order to re-assign this construct to a clearer picture. We attempt this endeavour in the next section.

2.5 Conceptual Issues in Entrepreneurial Fear of Failure

Each negative emotion involves a specific person-environment relationship (Lazarus, 1991). This suggests that we cannot understand fear of failure solely from the standpoint of the person or the context as separate units. The relationship between the individual and the environment is fundamental to understanding how fear of failure influences human behavior. However, we can think of two kinds of relationship: stable arrangements between the person and the environment or unstable arrangements between the person and the environment. While the first approach favours the concept of fear of failure as a personality trait, the second emphasizes the transient nature of the emotional state stimulated by environmental cues. A rigorous conceptualization of fear of failure must begin by establishing the relevance of one over the other.

In order to understand how dispositional factors influence behavior, it is important to consider the relevant environmental cues and stimuli and the process and outcomes of appraisal. This suggests that, although there is an inherent interdependence between the personological and motivational approaches to understanding psychological processes, the priority should go to understanding states. Therefore, we define fear of failure as temporary cognitive and emotional reaction towards environmental stimuli that are apprehended as threats in achievement contexts. By suggesting more focus on the temporary experience of fear of failure, we are not saying that dispositions should be ignored; rather, we are arguing that the temporary arousal of the construct should be considered at the centre of a theoretical framework, while dispositions contribute to shape the person-environment relation.

The concept of fear of failure as a state rather than trait is better able to explain the dualistic nature of fear of failure, manifested in approach as well as avoidance behavior. In

this context the dispositional approach alone is less useful, in particular because without introducing additional variables it cannot explain why individuals with traits associated with avoidance tendencies (e.g., trait anxiety) might also decide to approach. Within the entrepreneurship research tradition, studies on personal characteristics such as need for achievement and attitude towards risk have already showed that trying to explain entrepreneurial behavior from enduring personality differences lead to inconsistent and inconclusive findings (e.g., Brockhaus, 1980; Hornaday & Aboud, 1971; McGrath, McMillan, & Scheinberg, 1992). Therefore, future research should prioritise the psychological state that anticipates the behavioral manifestation of fear of failure.

Second, conceptualizing fear of failure as a state highlights connections between the construct and other relevant variables, including dispositions, which can be expected to amplify or mitigate the arousal of fear of failure. For example the 'Big Two', extraversion and neuroticism, reflect dispositional approach and avoidance (McCrae and Costa 1987). Similarly, positive and negative affective dispositions and trait optimism and trait pessimism can be expected to influence how different individuals attend to similar environmental cues. Thus, a state approach helps to explain the mechanisms through which certain dispositional variables influence the cognitive, emotional, and behavioral manifestation of fear of failure within the entrepreneurial process. Although research in the field of entrepreneurial personality has examined the direct relationship between dispositions and entrepreneurial behavior and outcomes (e.g. Ciaverella et al., 2004; Hmieleski & Baron, 2009; Zhao & Seibert, 2006), general dispositions are only distally related to approach and avoidance behaviors in specific settings and times (Rauch & Frese, 2007). Therefore, while traits or dispositions are important, it is the cognitive and emotional

experience that is central in understanding and explaining both the process and the consequences of fear of failure.

Third, if fear of failure is defined as psychological state, it may be more appropriately treated as an event-based experience (Dimov, 2007). Events are defined as “important happenings” that occur in specific time and place, and that imply a “change in what one is currently experiencing” (Weiss & Cropanzano, 1996: 31). The experience of fear of failure results from the appraisal of significant events that might threaten an individual’s sense of self and her esteem in the eyes of others (Birney et al., 1969). While individuals’ appraisals are influenced by intrapersonal factors (Lazarus, 1991), the impact of significant events is also a function of the achievement context in which they unfold. If we are interested in understanding fear of failure in entrepreneurship, then we must consider those ‘entrepreneurial events’ that can generate individuals’ fearful reactions. Therefore, we need to examine the features of the entrepreneurial setting to identify proximal causes of fear of failure.

It is important to understand the extent to which the entrepreneurial setting differs from other achievement settings such as the educational and sporting contexts where the majority of research on fear of failure has been conducted (e.g., Conroy, 2001; Covington, 1992). An achievement context is defined as a situation in which an individual sees her- or him-self as responsible for somewhat uncertain outcome and knows that such outcome will be evaluated against a standard of excellence (Atkinson, 1957; Maehr & Sjogren, 1971). Achievement situations involve the tasks that have to be performed, the standards against which the performance will be evaluated, and the competencies requested to carry out the tasks according to established standards. The specificity of the entrepreneurship domain can

be analysed according to the unique characteristics of these three elements – tasks, standards, and competencies.

First, unlike students and athletes, entrepreneurs face several tasks and are constantly exposed to the possibility of success or failure (see Hitt, Keats, & DeMarie, 1998). The entrepreneurial process is defined as a series of stages or events that follow one another including the idea or conception of a business, the initiation of operations, the implementation of the business and its subsequent growth. The development of each stage requires actions aimed to acquire and organize resources and competences associated with idea discovery, evaluation, and exploitation (Shane & Venkataraman, 2000). From the perception of opportunities to the creation of organizations to pursue them, entrepreneurs are constantly exposed to potential setbacks and negative feedback that reduce the chance of success and increase the likelihood of failure. As such, in comparison to sports and education, the entrepreneurial setting is a more complex collection of events that offer diverse potential triggers to fear of failure experiences.

Second, entrepreneurs are evaluated by multiple stakeholders using diverse criteria. When individuals decide to start a venture, they are inevitably exposed to other people's judgement and criticism. They are judged from those whose approval and money they seek, including peers, mentors, family, friends, investors, venture capitalists, competitors, and customers (Davidsson, 2005). Because they use different parameters to measure performance, these evaluators have different expectations that might influence individuals' anticipated affective reactions to success and failure as well as their cognitive evaluations of the aversive consequences of failure (Passer, 1983). Therefore, these evaluations play a significant role in shaping the meaning that entrepreneurs attribute to failure. Any analysis of entrepreneurs' fearful reactions should consider the role of different stakeholders, as

their performance expectations represent possible sources of fear of failure within the entrepreneurship domain.

Third, entrepreneurs have to demonstrate competence, both in terms of personal skills and knowledge and in the quality or potential of the opportunity they pursue. Entrepreneurship is commonly defined in terms of relationship between enterprising individuals and valuable opportunities (Shane & Venkataraman, 2000). Individuals form beliefs about the existence of opportunities “to sell products and services at a price greater than the cost of their production” (Autio, Dahlander, & Frederiksen, 2013: 1348). However, for them to act entrepreneurially, individuals also need to form beliefs about their ability to exploit these opportunities (McMullen & Shepherd, 2006). When an individual decides that a discovered opportunity represents a desirable and feasible course of action for her- or him-self, she or he establishes the individual-opportunity nexus, and starts a process of identification with and attachment to the venture (Cardon et al., 2005; Shane & Venkataraman, 2000; Shepherd et al., 2007). Entrepreneurs often refer to their business as “their baby” (Cardon et al., 2005: 127), and assume responsibilities for the successes and failures of their venture, which can be attributed to their personal abilities as well as to the potential and quality of the opportunity (Shepherd, 2003; Ucbasaran, Shepherd, Lockett, & Lyon, 2013). Thus, the nexus of individual and opportunity suggests the existence of both self-oriented and opportunity-oriented sources of fear of failure, an observation that deserves attention from future research.

In sum, as an achievement domain, entrepreneurship differs from educational and sport environment where, most of the research on fear of failure has been conducted. The events that follow one another, the multiple “evaluators”, and the individual-opportunity connection contribute to shape individuals’ cognitive evaluations of aversive consequences

of failing that are specific to the entrepreneurship domain. If the features of the context are also important in shaping the fear of failure experience, then they are indirectly related to the effects of fear and the intriguing paradox it may generate. Consistent with the idea of fear of failure as context-sensitive phenomena (e.g., Poczwardowski & Conroy, 2002), we suggest caution in integrating previous research, and invite scholars to explore fear of failure explicitly within entrepreneurial setting.

Building on our observations, the path forward should begin with the definition of fear of failure as a temporary emotional and cognitive condition. The view of fear of failure as passing state which emerge and subside in response to changing environmental cues is consistent with the process and experiential view of entrepreneurship (Lazarus, 1991; Weiss & Cropanzano, 1996). Scholars have argued the importance of viewing entrepreneurship in terms of an ongoing process, manifested in “the unfolding dynamics between mind, environment, and action” (Grégoire, Corbett, & McMullen, 2011: 1456). Morris and colleagues emphasize the centrality of emotional states or feelings to the concept of entrepreneurial experience: “entrepreneurship represents a cumulative series of interdependent events that takes on properties rooted in affect and emotion” (Morris et al., 2012; 11; see also Schindehutte et al., 2006). Such an approach is more realistic, more reflective of the experience of the entrepreneur, and more consistent with the dynamic nature of the exploration, development and learning process, with evolving knowledge and insights. Understanding the connection between those events, the arousal, manifestation, and transformation of fear of failure opens up a wider range of possibilities for the influence on entrepreneurship at different moments in the entrepreneurial journey. Only this perspective can emphasize the role and place we want to give fear of failure in entrepreneurship.

2.6 A Research Agenda

In this section, we outline a research agenda for fear of failure and entrepreneurship structured around the limitations that emerged from the existing literature. The conceptual ambiguity, the questionable construct validity, and the exclusive focus on the inhibitory effects offer the opportunity to re-examine the nature and the role of fear of failure within the entrepreneurship domain. Building on our conceptual observations, we propose four steps for the systematic study of this construct in entrepreneurship.

First, the development of a theoretical framework that explains the arousal, manifestation, and transformation of fear of failure within the entrepreneurial process requires an inductive investigation of the phenomenon. Psychological research emphasizes the importance of the achievement context and its characteristics in shaping the relationship between fear of failure and human behavior (Conroy, 2001; Lazarus, 1991). The entrepreneurship domain is sufficiently distinct achievement context, characterized by the need for action under uncertainty; action that holds possibly severe consequences for individual wellbeing or even economic survival. By examining the phenomenon as it is experienced by entrepreneurs, and determining from the ground-up what are the factors that cause entrepreneurs to experience fearful emotions, what thoughts, feelings and behaviors accompany such experiences, inductive research can help make sense of an interesting phenomenon that has not received satisfying explanation within the entrepreneurship literature.

Second, a new measure of fear of failure is needed that reflects a more complete conceptualization of fear of failure. Limitations of existing measures of fear of failure such as the GEM measure, the PANAS, and the PFAI further justify the need for a new measure of fear of failure. The GEM survey item employed to assess fear of failure attitudes of

nascent, emergent, and experienced entrepreneurs and the rest of the population imposes a unidimensional structure and asserts a unidirectional relationship between fear of failure and entrepreneurial behavior. The item “fear of failure would prevent me from starting a business” takes for granted that if fear of failure is present, it will always have an inhibitory effect. On the contrary, fear of failure can also lead to approaching behavior and a valid measure of the construct should not hamper the assessment of its dualistic nature (Birney et al., 1969; Martin & Marsh, 2003).

Like the GEM measure, the PANAS and the PFAI do not appear to accurately represent the concept of fear of failure. If fear of failure is an experience, it encompasses both cognition and affect. Making the distinction between fear of failure as cognitive judgement and emotional experience might lead to the conclusion that these components should be treated as separate phenomena with distinct and/or overlapping consequences. Consequently, a complete understanding of the construct must account for both cognitive and affective aspects of the experience. However, while the PANAS has been used to assess the emotional reaction associated with the fear of failure, the PFAI appears to capture its cognitive component (Conroy, 2001; 2001a). This inventory measures the degree of individuals’ presumably stable cognitive beliefs in five aversive consequences of failure (experiencing shame and embarrassment, devaluating one’s self-estimate, having an uncertain future, important others losing interests, and upsetting important others) without assessing the emotional reaction associated with the fear of failure experience. In addition, these five cognitive evaluations may not be fully representative of the entrepreneurship context, where individual’s beliefs in the aversive threats of failure relate to both the self and the opportunity (McMullen & Shepherd, 2006). We invite future research to address these issues and develop a measure that is able to assess the whole fear of failure

experience within the entrepreneurial process. Another observation concerning the methodological limitations of the current literature on fear of failure and entrepreneurship is a prevalence of cross-sectional studies. Data on the level of an individual's fear of failure, its antecedents or consequences, have all been captured at one point in time, resulting in an evidence base of snapshots. Tracking the experience of fear of failure over time is challenging, but longitudinal research designs are needed to capture the temporal dynamics associated with transitional states. This would complete our understanding of the arousal, manifestation and transformation of this phenomenon.

Third, future research should consider the impact of fear of failure on a broader range of behavioral outcomes. Existing literature on fear of failure and entrepreneurship mostly focuses on the influence of the construct on the decision to start a business (e.g., Arenius & Minniti, 2005; Hessels et al., 2011; Li, 2011; Welpe et al., 2012). However, the psychological state of fear can be experienced also throughout the entrepreneurial process, affecting nascent, emergent, experienced entrepreneurs' entrepreneurial action. For example, fear of failure might influence the type of task that is undertaken, and the level of efforts invested in the chosen task (Atkinson, 1957). Future research should also be concerned with the influence of fear of failure on individuals' persistence with a chosen course of actions, despite negative results (Staw, 1976). Another outcome that might be influenced by fear of failure is the level of physical and psychological health: striving behavior driven by fear of failure is often accompanied by high level of anxiety and psychological fatigue that damage individuals' wellbeing (De Castella, Byrne, & Covington, 2013). We encourage scholars to address these and other research questions on the influence of fear of failure on the entrepreneurial process in order to gain a complete understanding of this phenomenon and its behavioral consequences.

Finally, once the conceptual and operational issues have been fully addressed, it would be interesting to extend the analysis of fear of failure and entrepreneurial behavior in related contexts such as corporate entrepreneurship and family business. This analysis would require the consideration of additional elements that might influence the cognitive, motivational, and relational processes that result in the experience of fear of failure. For example, in corporate entrepreneurship, fear of failure may be relevant to the choices of middle managers to engage in seeking, developing or promoting potential new venture ideas, and to the behaviors of idea champions and sponsors (Hayton & Kelley, 2006). In larger organizations, cultures, team dynamics and the psychological safety of the organizational environment might amplify or reduce employees' fear of failure (Hayton, 2005). Another related context is that of family businesses, where the fear of failure resulting from perceived threats to long-term or transgenerational wealth preservation may amplify the importance of financial risks beyond that experienced by non-family business entrepreneurs. Further, threats to socioemotional wealth might represent a relatively unique source of threat appraisal relevant to fear of failing in family businesses (Gomez-Mejia et al., 2007). Because fear of failure is a context-sensitive phenomenon, differences in these diverse entrepreneurial settings may result in differences in sources of fear arousal, as well as the manifestation, and consequences of those fears. Further investigations on fear of failure in these contexts are needed in order to solve the complexities of this phenomenon and provide a more integrated and complete understanding of fear of failure in entrepreneurship. A general framework in the broad domain of entrepreneurial action would represent a starting point for such related explorations.

2.7 Conclusion

The fear of failure is an essential part of the entrepreneurial journey. Entrepreneurs are often described as passionate, enthusiastic, ambitious, resilient (e.g., Cardon et al., 2009; Hermans, Apeldoorn, Stuiver, & Kok, 2013; Hmieleski & Carr, 2007; Stam et al., 2012). However, we believe that underneath this invincible surface lies an inconvenient truth: entrepreneurs also experience fear regarding the potential failures, large and small related to their ventures. During the journey, they might have to deal with fears of losing a client, not being paid, not delivering on time, out of control cash flow, as well as the fear of not having enough time to spend with family, friends, and loved ones. Although it is not difficult to agree on the reality of this scenario, the experience of fear of failure is the least told chapter in the life story of an entrepreneur.

Within the entrepreneurship literature, fear of failure is viewed as simply a barrier to entrepreneurial action. Actually, fear of failure can be many different things – from the worst of enemies to the best of friends (Martin & Marsh, 2003). It can be the barrier to individuals' entrepreneurial aspiration, or the source of entrepreneurs' determination to win. However, more than anything, the experience of fear of failure is a complex, understudied, and highly nuanced issue. With this review, we have started to trace the contours of this interesting phenomenon.

We have argued that the lack of precision in the conceptualization and operationalization of fear of failure in entrepreneurship research does not imply that the construct lacks conceptual and practical utility. We have identified the unique attributes of prior research that most occupy the conceptual space we would call fear of failure in entrepreneurship. However, we have highlighted that the construct will be more useful if framed as a temporary cognitive and emotional experience. Fear of failure can be placed at the centre of

a theoretical model where different variables (e.g., emotions, cognitions, dispositional factors and environmental cues) exist harmoniously in the service of behavioral explanation. In the absence of such model, it is hard to develop relevant research hypotheses on the relationship between fear of failure and entrepreneurship without avoiding the flaws of current research.

We hope that this review helps researchers have a firmer idea about the locus of the issue when they decide to study fear of failure, and invite them to explore the construct more in depth, so that future research can more precisely identify the nature of the fear of failure construct they are pursuing in entrepreneurship.

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2.9 Appendix

2.9.1 - A. Cross-citation Analysis

We used cross-citation analysis (Hicks, 1987) among the 44 empirical articles to assess the relationship between the personological and the motivational approaches. The purpose of this analysis was to uncover existing citation patterns by showing the extent to which articles adopting a personological approach cite articles adopting a motivational approach and vice versa.

We started this analysis by creating a 44*44 article citation matrix which was used to identify existing nodes in the citation network. This matrix was also used as the main input in the UCINET software for the cross citation clustering (Zhang, Janssens, Liang, & Glänzel, 2010). We found that 14 journal articles were not cited and did not cite any article within the network (see Table 2.3). The most cited articles within the network are: Arenius and Minniti (2005) (10), Wagner and Stenberg (2004) (6), Mitchell and Shepherd (2010) (5), Minniti and Nardone (2007) (5), and Wagner (2007) (4). We also found that very few articles cite other articles within the network (number of cited articles within the network ≤ 4). This suggests that there are weak connections among the fear of failure and entrepreneurship articles within the network.

Table 2.3 44*44 Article Citation Matrix

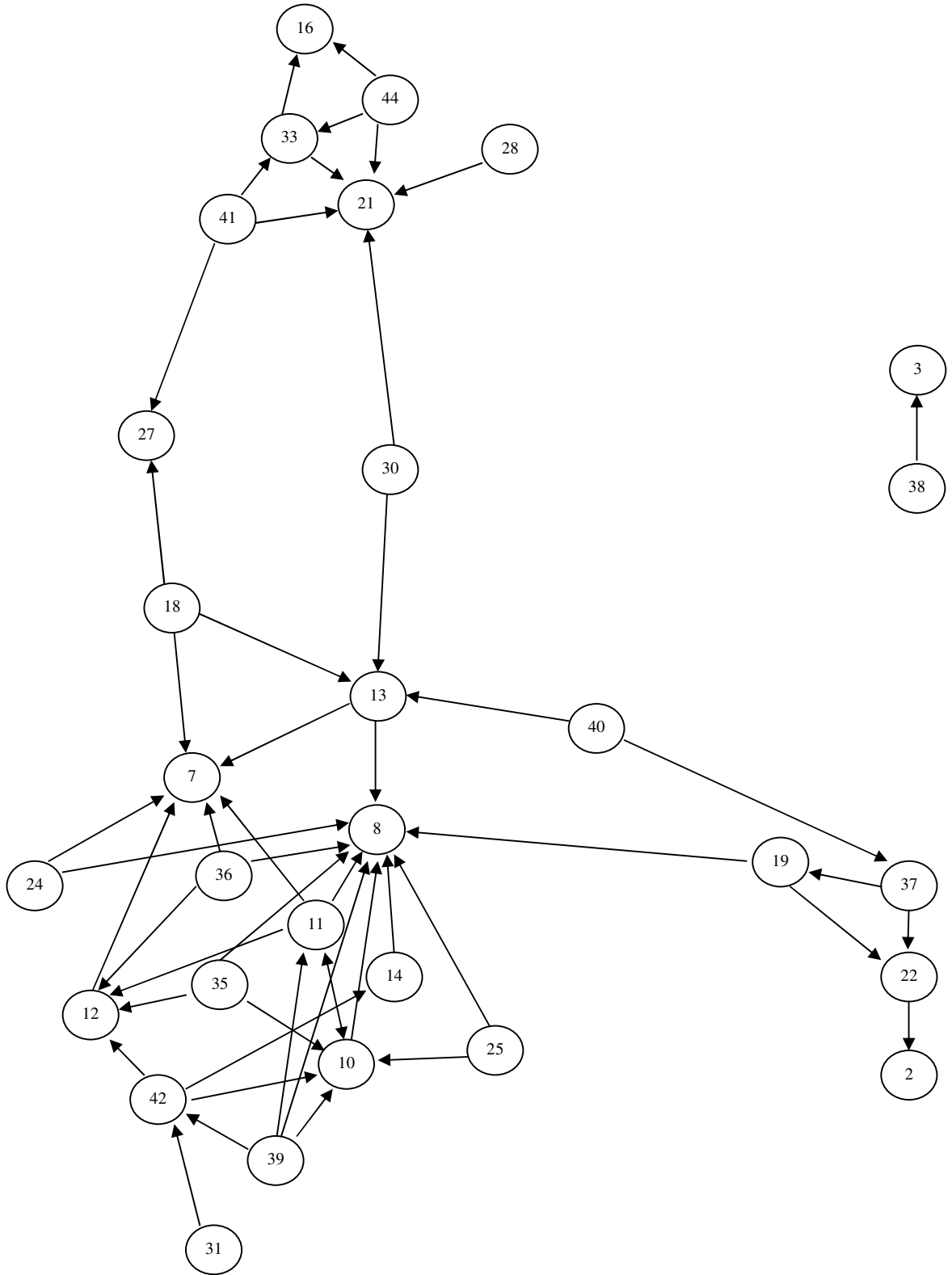
Article	Number of cross-citations	Article	Number of cross-citations
1. Sigh (1989)	0/0 ²	23. Patzelt and Shepherd (2011)	0/0
2. Ray (1994)	1/0	24. Ozdemir and Karadeniz (2011)	0/2
3. Rahim (1996)	1/0	25. Bosma and Schutjens (2011)	0/2
4. Volery, Doss, Mazzarol and Thein (1997)	0/0	26. Sandhu, Sidique, and Riaz (2011)	0/0
5. Helms (2003)	0/0	27. Hessels, Grilo, Thurik, and Roy (2011)	2/0
6. Crane and Sohl (2004)	0/0	28. Mitchell and Shepherd (2011)	0/1
7. Wagner and Stenberg (2004)	6/0	29. Nawaser, Khaksar, Shakhshian and Jahanshahi (2011)	0/0
8. Arenius and Minniti (2005)	10/0	30. Anokhin and Mendoza Abarca (2011)	0/2
9. Morales-Gualdron and Roig (2005)	0/0	31. Verheul and Van Mil (2011)	0/1
10. Minniti and Nardone (2007)	5/2	32. Li (2011)	0/0
11. Langowitz and Minniti (2007)	3/4	33. Wood and Rowe (2011)	2/2
12. Wagner (2007)	4/1	34. Ekore and Okekeocha (2012)	0/0
13. Vaillant and Lafuente (2007)	3/2	35. Shinnar, Giacomini, and Janssen (2012)	0/4
14. Koellinger, Minniti, and Schade (2007)	1/1	36. Brixy, Sternberg, and Stüber (2012)	0/3
15. Grichnik (2008)	0/0	37. Welp, Spörle, Grichnik, Michl, and Audretsch (2012)	1/2
	2/0	38. Fisher, Maritz, and Lobo (2013)	0/1
16. Wood and Pearson (2009)		39. Noguera, Alvarez, and Urbano (2013)	0/4
17. Klaukien and Patzelt (2009)	0/0	40. Wennberg, Pathak, and Autio (2013)	0/2
18. Autio and Pathak (2010)	0/3	41. Wood, McKinley, and Engstrom, (2013)	0/3
19. Grichnik, Smeja, and Welp (2010)	1/2	42. Koellinger, Minniti, and Schade (2013)	2/3
20. Canizares and Garcia (2010)	0/0	43. Khefacha, Belkacem, and Mansouri (2013)	0/0
21. Mitchell and Shepherd (2010)	5/0	44. Wood, Mckelvie, and Haynie (2014)	0/3
22. Foo (2011)	2/1		

Note. 1= Number of citations received within the article network

2= Number of cited articles within the network

Nevertheless, the examination of the UCINET output clearly shows a cross-citation clustering that reflects our classification of the literature (see Figure 2.2). Three clusters can be easily identified. The first, more dense, cluster is composed by articles adopting a personological approach and measuring fear of failure with the GEM survey item (e.g., Arenius & Minniti, 2005; Brixy et al., 2012; Bosma & Schutjens, 2011; Koellinger et al., 2007; 2013; Langowitz & Minniti, 2007; Minniti & Nardone, 2007; Shinnar et al., 2012; Wagner, 2007). The second cluster includes articles adopting a personological approach and measuring fear of failure with the PFAI by Conroy (2002; 2003) (e.g., Mitchell & Shepherd, 2010; 2011; Wood et al., 2013; 2014; Wood & Pearson, 2009; Wood & Rowe, 2011). The last cluster is composed by some articles that describe fear and fear of failure as discrete negative emotion (e.g., Foo, 2011; Grichnik et al., 2010; Welpé et al., 2012). These results are consistent with our classification and support our interpretation of the entrepreneurship literature on fear of failure.

Figure 2.2 Cross-citation Clustering



CHAPTER 3

3. A RECONCEPTUALIZATION OF FEAR OF FAILURE IN ENTREPRENEURSHIP

3.1 Abstract

In recent years, entrepreneurship research has sought to understand those motivational factors that inhibit entrepreneurial behavior and that act as barriers to entrepreneurship. Within this stream of research, scholars have also addressed the role of the fear of failure in relation to entrepreneurial behavior. Although progress in understanding fear of failure in entrepreneurship has been made, scholars have investigated this construct from distinct disciplinary perspectives. These perspectives use definitions and measures of fear of failure that are potentially in conflict, limiting the power of existing findings about the relationship between fear of failure and entrepreneurship. The purpose of this paper is to more precisely delineate the nature of fear of failure in entrepreneurship. Specifically, using a qualitative research design, we frame this construct as a complex combination of cognition, affect and action. In so doing, we provide a unified perspective of fear of failure in entrepreneurship in order to facilitate the progress in understanding its impact on entrepreneurial action and outcomes.

3.2 Introduction

In recent years, entrepreneurship research has increasingly focused on the effect of motivation on entrepreneurial outcomes (e.g., Locke & Baum, 2007; McClelland, 1961; Rauch & Frese, 2007; Shane, Locke & Collins, 2003). For example, research on need for achievement, locus of control, and proactivity shows that these motivating factors play an

important role in driving behavior toward venture emergence (Shane et. al., 2003; Bird, 1989). Likewise, motivation research in entrepreneurship has investigated those factors that inhibit entrepreneurial behavior and act as barriers to entrepreneurship (e.g., Bosma, Jones, Autio, & Levie, 2007; Hatala, 2005; Henderson & Robertson, 1999). This stream of research has demonstrated that the fear of failure exerts a negative impact on entrepreneurial activity (Arenius & Minniti, 2005; Minniti & Nardone, 2007; Langowitz & Minniti, 2007; Wagner, 2007; Morales-Gualdron & Roig, 2005; Vaillant & Lafuente, 2007; Helms, 2003), entrepreneurial processes (Brix, Stenberg, & Stuber, 2009; Hessels, Grilo, Thurik, & van der Zwan, 2011; Autio & Pathak, 2010), international entrepreneurship (Helms, 2003) and entrepreneurial intention (Shinnar, Giacomini, & Janssen, 2012). Surprisingly, some empirical evidence suggests the possibility of both motivating and inhibitory responses to fear of failure in entrepreneurial action (Ray, 1994; Mitchell & Shepherd 2011). These findings contradict the negative role that the fear of failure construct assumes within the entrepreneurship literature.

Although prior research has made progress in understanding fear of failure in entrepreneurship, researchers have investigated this construct from multiple different perspectives that are potentially in conflict. For example, Arenius and Minniti (2005) assumed that fear of failure reflects the perceived risk of starting a new venture, so that a reduction in these perceptions will increase the probability of starting a new business (Weber & Milliman, 1997). Likewise, Vaillant and Lafuente (2007) define fear of failure as a socio-cultural trait. This view holds that fear of failure is significantly influenced by internalized cultural norms and behavioral responses minimize the risk of social punishment. Finally, Li (2011) described fear of failure as a negative feeling experienced as the result of environmental cues, and associated it with certain psychological and

behavioral outcomes. The description of fear of failure from these different perspectives involves multiple definitions and measures of this construct. Definitions of fear of failure as risk aversion or as socio-cultural trait emphasize its dispositional nature. Conversely, definitions of fear of failure as a feeling identify it as an emotional state. Because these definitions differ in terms of the underlying nature of fear of failure (trait versus state), the actual meaning of the construct in entrepreneurship research remains underspecified. Moreover, it is not clear if the different measures converge to capture the same construct, which limits the power of existing findings on the relationship between fear of failure and entrepreneurship. In this sense, the ambiguity and diversity that characterize the existing entrepreneurship literature on fear of failure hinders the potential progress in understanding the impact that fear of failure has on entrepreneurial action and outcomes.

The purpose of this paper is to more precisely delineate the nature of fear of failure in entrepreneurship. Specifically, we use a qualitative approach to examine fear of failure *as it is experienced*. In doing so, we look at fear of failure as a complex combination of cognition, affect and action that bridges the inner world of the entrepreneur with the challenging, uncertain, and risk-laden environment in which they operate (Mitchell, Randolph-Seng & Mitchell, 2011; Morris, Kuratko, Schindehutte, & Spivack, 2012; Sarasvathy, 2004). Our qualitative approach, which focuses on the experience of failure, highlights temporal and situational dynamics in the processes of appraising internal and external events, learning, and responding. This approach moves away from simplistic categorizations of fear of failure as a discrete emotion or a trait, and moves towards a conceptualization of fear of failure in terms of a combination of situated psychological states (Mitchell, Mitchell, & Randolph-Seng, 2014a).

We make three primary contributions. First, we provide a unified perspective of fear of failure in entrepreneurship. We suggest fear of failure to be a phenomenon involving cognitive, affective, and behavioral reactions. We develop the role and importance of each component of the fear of failure experience. To accomplish this, we propose a model that connects threat cues, cognitions, affect, behavioral responses, and outcomes of fear of failure. Through the model, we begin to outline a description of the process through which these components are associated with entrepreneurial activity characterized in terms of approach versus avoidance. Second, we explore the unfolding process of the fear of failure experience within the entrepreneurial setting and confirm the theoretical interpretation of fear of failure as context-sensitive phenomenon (Cacciotti & Hayton 2015; Whetten, 2009). Third, we embed our theorizing in the existing entrepreneurship literature and use our conceptualization of fear of failure to bridge this disparate work on fear of failure in entrepreneurship. As part of this, we propose an agenda for future research on fear of failure in entrepreneurship.

We proceed as follows. We first provide a picture of existing research on fear of failure as a foundation. Next, in order to accurately describe the phenomenon from the point of view of the entrepreneur, we pursue a systematic process involving face-to-face interviews (Glaser & Strauss, 1967). Accordingly, we conducted 65 open-ended interviews with entrepreneurs and potential entrepreneurs in the UK and Canada. We then probe the elicited data—which represent “the stories that people tell,” (Gartner, 2007: 613) and “meanings in use” (Gephart, 2004: 455)—for coherent, contextualized insights, which could allow us to understand fear of failure from the perspectives of our research participants. Finally, we discuss and integrate our results and propositions relative to the existing literature with an eye towards future research.

3.3 Fear of Failure in Entrepreneurship

Fear of failure in entrepreneurship has been examined in terms of both economic theory and psychological theory. The economics-based view of fear of failure in entrepreneurship is that fear of failure perceptions negatively influence entrepreneurship as an occupational choice (e.g., Arenius & Minniti, 2005; Kihlstrom & Laffont, 1979). Several studies suggest that fear of failure exerts a negative impact on entrepreneurial activity (Arenius & Minniti, 2005; Minniti & Nardone, 2007; Langowitz & Minniti, 2007; Wagner, 2007; Morales-Gualdron & Roig, 2005). Other research suggests that fear of failure differs between nascent entrepreneurs and non-entrepreneurs (Arenius & Minniti, 2005) and its effects lead to differences between males and females in terms of the propensity to start a business (Minniti & Nardone, 2007; Langowitz & Minniti, 2007; Wagner, 2007). However, a limitation in these studies is that they have relied upon the Global Entrepreneurship Monitor (GEM) database where fear of failure is measured by a single item: “fear of failure would prevent me from starting a business” (Bosma et al., 2007). The wording of this item assumes that avoidance is the only behavioral outcome, thus creating a serious threat to validity. In this sense, measurement concerns lead to an underspecified picture of fear of failure in entrepreneurship.

The psychology-based view of fear of failure can be divided into psychological and social-psychological approaches. As with the economics approach, fear of failure is assumed to exert only a negative influence on entrepreneurial behavior. Studies that adopt a social psychological perspective define fear of failure as a socio-cultural trait that influences attention to rewards in the social environment (e.g., Vaillant & Lafuente, 2007). This research suggests that people’s attitude toward failure is influenced by the presence of social norms that see *failing* as a shameful experience (Tezuka, 1997; Hessels et al., 2011).

This research also assumes that fear of failure is equivalent to risk aversion. Many of these studies similarly rely upon the GEM data (Vaillant & Lafuente, 2007; Autio & Pathak, 2010; Hessels et al., 2011; Brixi et al., 2009). Given the format of the fear of failure measure, the results unsurprisingly suggest that fear of failure at the national level is negatively correlated with entrepreneurial activity (Vaillant & Lafuente, 2007; Helms, 2003), entrepreneurial processes (Brixi et al., 2009; Hessels et al., 2011; Autio & Pathak, 2010), international entrepreneurship (Helms, 2003), and entrepreneurial intention (Shinnar et al., 2012).

Studies adopting a purely psychological perspective describe fear of failure as a negative feeling resulting from the anticipation of the possibility of failure and associated with psychological and behavioral outcomes (e.g., Li, 2011; Welpe, Sporrle, Grichnik, Michl, & Audretsch, 2012; Mitchell & Shepherd 2010). This work suggests that both fear of failure is a feeling about expected outcomes, which can combine with other negative emotions (e.g., irritation, contempt, disappointment, etc.) to influence people's judgment on the value founding a new venture (Li, 2011) and that such emotions moderate the decision to exploit entrepreneurial opportunities (Welp et al., 2012). These studies frequently employ a single scale to provide a negative emotion score and utilize experimental decision scenarios to induce emotions. A question remains as to whether negative affect is an antecedent or outcome of a particular decision. While much of the research in this approach views fear of failure as inhibiting entrepreneurial behavior, evidence exists which suggests that fear of failure can sometimes have a positive influence on entrepreneurial action (Mitchell & Shepherd, 2011). A summary of these perspectives is presented in table 3.1.

Table 3.1 Summary of Theoretical Perspectives of Fear of Failure in Entrepreneurship

Perspective	Definition(s)	Measure(s)/Dimensionality	Main Outcome(s)/Effect(s)	Illustrative Studies
Economics	Perceived risk	Single item: "fear of failure would prevent me from starting a business"/Unidimensional	<ul style="list-style-type: none"> Decreases the probability of starting a business Distinguishes entrepreneurs from non-entrepreneurs Varies between males and females 	Arenius & Minniti, 2005; Minniti & Nardone, 2007; Langowitz & Minniti, 2007; Wagner, 2007; Morales-Gualdron & Roig, 2005
Social Psychology	<ul style="list-style-type: none"> Socio-cultural trait Risk aversion 	Single item: "fear of failure would prevent me from starting a business"/Unidimensional	<ul style="list-style-type: none"> Decreases international entrepreneurship Decreases entrepreneurial intention Negatively impacts on entrepreneurial activity Negatively impacts on entrepreneurial processes 	Alon & Lerner, 2008; Vaillant & Lafuente, 2007; Pathak & Autio, 2010; Hessels et al., 2011; Brixy, et al., 2012; Shinnar et al., 2012
Psychology	<ul style="list-style-type: none"> Discrete negative emotion Capacity or propensity to experience shame upon failure Desire to avert the perceived consequences of the "non-attainment of one's level of aspiration" Feeling that leaves a person discouraged and afraid that he or she will not succeed even before making an attempt 	<ul style="list-style-type: none"> PANAS (Watson and Clark 1994)/Unidimensional Bosman and Winden's (2002) emotion lists/Unidimensional PFAI (Conroy, Willow, and Metzler 2002)/Multidimensional 	<ul style="list-style-type: none"> Negatively influences people's judgment on the value founding a new venture. Decreases entrepreneurial intention Increases focus on the internally-focused desirability components of opportunities, and a decreases focus on certain externally-focused environmental aspects Negatively influences decision to engage in entrepreneurial action 	Li, 2011; Welpel et al., 2012; Mitchell & Shepherd, 2010 ;Wood & Pearson, 2009; Ekore & Okekeocha, 2012

With very few exceptions (Mitchell & Shepherd, 2011; Ray, 1994), extant research on fear of failure has focused almost exclusively on its inhibitory effects. At the same time however, the description of fear of failure from different perspectives has implied the use of multiple definitions and measures of this construct. The term “fear of failure” has been used to refer to a stable disposition (e.g., risk aversion or socio-cultural trait) and a psychological state (e.g., negative feeling). These different definitions come with certain assumptions about the nature of the construct. When framed as disposition, fear of failure is an individual’s stable tendency to become anxious about failure, independent of the specific characteristics of the achievement context (Atkinson & Litwin 1973; Birney, Burdick, & Teeven, 1969). When framed as a psychological state, fear of failure is an individual’s temporary cognitive and emotional state that arises from the appraisal of threats in evaluative situations that have the potential for failure.

Although these definitions refer to two different conceptualizations of fear of failure, they represent two sides of the same coin. Fear of failure can exist as a relatively stable predisposition to experience fear of failure, and can exist as the actual experience of the phenomenon that leads to psychological and behavioral responses. In entrepreneurship research, the focus is primarily on the behavioral consequences of fear of failure (e.g., its effect on the propensity to start a business). Because of this focus, we see value in understanding the temporary arousal that leads to behavior. It is for this reason that in our attempt to provide a unified perspective on this topic, we use an inductive research design to focus on the actual experience of fear of failure and its unfolding process within the entrepreneurial setting. By examining the phenomenon as it is experienced by entrepreneurs, we can develop a better understanding of factors that lead entrepreneurs to experience fearful emotions, and of the accompanying feelings and behaviors of such

experiences.

3.4 Research Design

We take a qualitative approach in the present study for three reasons. First, qualitative data can offer rich descriptions of the fear of failure phenomenon in entrepreneurship (Yin, 2009; Miles & Huberman, 1994; Siggelkow, 2007) and may help reconcile existing work in entrepreneurship that does not necessarily accord with psychological research suggesting that under some conditions fear of failure may promote action (e.g., Birney et al., 1969; Elliott, 1999; Martin & Marsh, 2003). Second, qualitative research facilitates contextual embeddedness, which is fundamental when studying a specific phenomenon within a specific context (Denzin & Lincoln, 1994; Miles & Huberman, 1994). Third, because we examine fear of failure *as it is experienced*, it is essential that we use data that most closely reflect the “lived experience” of entrepreneurs (Miles & Huberman, 1994).

3.4.1 Data Collection

Qualitative research strategies can be fraught with risk of imposing *a priori* theoretical perspectives onto the data. We have deliberately used a strategy to limit the extent to which our assumptions and beliefs about the nature and consequences of fear of failure in entrepreneurship influenced the data collection. One of the authors performed the original data collection, whereas the three authors who performed the data analysis were kept separate from the data collection process at all times (Bernard, 2002). While one can rarely approach a phenomenon without some influence of prior knowledge or theory, we have attempted to do so with as clear a canvas as possible.

Data collection and analysis proceeded in two phases (summarized in Appendix A), both consisting of face-to-face interviews. Compared with other data sources, interviews are relevant when the phenomenon of interest lacks clear conceptualization (Polit & Hungler, 1999; Spivack, McKelvie, & Haynie, 2014). In the first phase the interview data were collected and analyzed to produce a preliminary conceptual framework. In the second phase, another set of subjects was interviewed using the same interview protocol with additional questions raised from the first analysis to deepen and further clarify subjects' descriptions of the phenomenon. The aim was to both triangulate and refine the initial framework.

For the first phase of data collection, we identified subjects through engagement with four non-profit regional entrepreneurship support organizations. In addition, we used a snowball sampling strategy by asking subjects to recommend other possible interviewees. We included individuals who are currently active entrepreneurs or nascent entrepreneurs, and also individuals who indicated that at a recent time they had an entrepreneurial idea that they pursued and then dropped. Our logic was that if existing entrepreneurship research is correct, then those who continue to engage in entrepreneurial actions might not experience fear of failure. If fear was only applicable to those who were inhibited, then non-entrepreneurs who desired to be entrepreneurs would be the appropriate population to study. On the other hand, if practicing entrepreneurs experience fear of failure, then they should also be included. We therefore diversified the subject pool to allow for the possibility that those who have started a venture experience fear differently to those who have chosen not to start.

In phase one, we interviewed 35 subjects, all from the UK. Of these, 14 had acted upon an entrepreneurial idea, and considered themselves entrepreneurs at the time of research.

The level of entrepreneurial experience ranged from recently started entrepreneurial activities to established entrepreneurs with several decades of experience. There were 21 respondents who had developed entrepreneurial ideas but had ceased their initial entrepreneurial activities before a venture was established. In phase two, which followed the coding and analysis of the first round of interview data, we focused only upon those who were emergent or established entrepreneurs, with a sample of 30 Canadian subjects. Participants for this phase were also identified through a regional entrepreneurship support organization. We ceased identifying subjects when the interviews were adding only marginal increases to our knowledge. We interviewed 65 individuals in total. Table 3.2 describes the demographic characteristics of our samples.

Table 3.2 Demographics

	UK active	UK non-active	Canada active
N	14	21	30
Gender	Male (9) Female (5)	Male (12) Female (9)	Male (28) Female (2)
Average Age	36	32	39
Status	Single (7) Married (6) Divorced (1)	Single (10) Married (10) Divorced (1)	Married (14) Single (11) Common Law (3) Divorced (2)
Ethnic Group	White (13) Asian (1)	White (20) Asian (1)	White (25) African America (1) Indian (2) Asian (1) Arab (1)
Religion	Atheist (7) Christian (6) Agnostic (1)	Atheist (9) Christian (9) Agnostic (3)	Christian (17) Agnostic (8) Atheist (3) Muslim (2)
Education	Undergraduate degree (4) Graduate degree (4) College (4) High school (1) Some post graduate degree (1)	Undergraduate degree (8) College (5) Graduate degree (4) High school (1) Some post graduate degree (2) PhD (1)	Undergraduate degree (12) Graduate degree (8) College (5) PhD (3) High school (1) Some university degree (1)

All interviews were semi-structured, ranging in duration from 30 minutes to 1 hour. Our protocol aimed to elicit information about the origin of the fear of failure experience and the different components (e.g., thoughts, feelings, and behaviors) associated with such experience. During the interviews, we used both the words fear and anxiety to target the object of our investigation. In the psychological literature, fear is considered to be a response to “an immediate, concrete, physical danger,” whereas anxiety reflects the appraisal of less specific threats such as the possibility of negative social evaluations (Lazarus, 1991: 122). However, in the context of research on achievement motivation, it is

common to use the term “fear of failure” to describe the appraisal of both concrete and ambiguous threats (Atkinson & Litwin, 1960; Barlow, 2000; Feather, 1965; Lazarus, 1991; 1999). Since the seminal studies of Atkinson and colleagues (e.g., Atkinson, 1957; Atkinson & Litwin, 1960; 1973) it has been “common practice to operationalize fear of failure as a form of performance anxiety” (Conroy, 2001: 432). All interviews were recorded, transcribed and assembled into a single data file. This enabled us to share the data across the coding team and facilitated the data analysis. Coding of transcripts followed the process of thematic analysis, which we describe next.

3.4.2 Data Analysis

Thematic analysis is a method used in qualitative psychology (Braun & Clarke, 2006) and has also been applied in the context of entrepreneurship (Jones et al., 2011). It begins with the identification and coding of basic themes in the data. The original interviewee statements represent basic themes (Attride-Stirling, 2001; Boyatzis, 1998; Braun & Clarke, 2006). Higher-level “organizing themes” represent ideas, meanings, inferences, or actions recurring across multiple statements and respondents. These organizing themes are therefore subjective inferences made by the researcher(s) about the commonalities across the basic themes evident in the raw data. The organizing themes are then themselves ordered into high level “global themes” that reflect the principal categories in the interview texts (Attride-Stirling, 2001). In this way a parsimonious interpretation of the rich body of textual data is obtained by a series of interpretations, typically made by a team of researchers (Boyatzis, 1998; Braun & Clarke, 2006). Because it consists of searching for certain themes or patterns across an entire dataset, thematic analysis overlaps with other qualitative analytic methods such as grounded theory (Corbin & Strauss, 1990),

interpretative phenomenological analysis (Smith & Osborn, 2003), and discourse analysis (Burman & Parker, 1993). However, in contrast to these methods, thematic analysis is not bounded to pre-existing theoretical frameworks, offering a more flexible and accessible form of analysis (Braun & Clarke, 2006).

As we collected the first set of interviews (phase one), two of the three authors not involved in the data collection process undertook the initial coding (Appendix B). They began with a thorough reading of the data (Corbin & Strauss, 1990). Guided by the theoretical interest of the study, the researchers independently identified and retained statements related to the fear of failure experience. The two authors then agreed upon the relevance of the statements and disagreements were resolved through discussion. Next, working independently they labeled each statement according to the specific theme it represented. These labels were then discussed and disagreements were resolved. Once these preliminary themes were agreed upon, the coding of process proceeded by assigning labels to each statement. In this way a list of basic themes was identified, and then labeled according to the meaning agreed by the two coders.

Next the second level, organizing themes, were identified. When basic themes occurred frequently, they were organized into these second level, organizing themes. In order to avoid constraining conceptualization at a preliminary stage, even infrequently occurring basic themes were grouped in organizing themes.

In the final step, the organizing themes were grouped into global themes. The underlying logic of the creation of global themes can be either inductive or deductive (employing pre-existing categories) (Boyatzis, 1998). Since our objective is to derive a conceptual framing of the construct, its antecedents, and consequences, we inductively identified global themes on the basis of meaningful categories of factors or variables in the data such as sources of

threat, affect, behavior and so on. In the first round of interview data the goal was to obtain complete agreement between the raters on the labeling of the three levels of themes and devised a preliminary coding framework to guide subsequent analysis.

In order to enhance validity, we triangulated across analysts. The three coders for the second round of interview data included one of the authors who had not participated in the coding for phase one and could question, interrogate, and challenge the initial coding framework (Mantere, Schildt, & Sillince, 2012). For the 30 interviews in phase two, the transcripts were again read thoroughly by the researchers (Strauss & Corbin, 1990). Statements related to the fear of failure experience were identified and coded independently by the three authors, according to the preliminary coding framework identified in the first set of interviews. During this process (summarized in Appendix C), the coding team met to refine thematic categories.

At this stage, we calculated an index of reliability used for content analysis: the percentage of agreement (Lombard, Snyder-Duch, & Bracken, 2002). We chose this index as it is simple, intuitive, and can accommodate more than two coders. It was calculated as the number of unanimous agreements about assignment of a statement to an organizing theme, as a proportion of total number of statements associated with that theme. The percentage of agreement across organizing themes ranged from 92% to 100%. Reliability scores higher than .90 are considered to be acceptable (Neuendorf, 2002), thus supporting our coding of the Canadian interview data. Disagreements were identified and reconciled through discussion until there was a unanimous agreement on the assignment for each statement to one or more categories. In some instances, statements could be assigned to more than one category (e.g., motivation and affect). In a few cases, statements that were adjacent in transcripts and were found to repeat the same basic meaning were combined.

When statements could not be assigned to existing categories, new ones were created. In other cases, the meaning of a statement was insufficiently clear and agreement was not possible. Those cases were deleted. Once agreement was reached for a final set of categories, the statements were re-coded. We base our analysis only on the statements for which the three coders reached unanimous agreement. The final structure of the data is presented in table 3.3.

Table 3.3 From Basic to Organizing to Global Themes

Basic Themes	Organizing Themes	Global Themes
1. Loss or potential loss of money and savings 2. Lack of income 3. Loss of current standards of living for self and family	Financial security	Sources of fear of failure
4. Lack of ability to pursue the opportunity 5. Lack of ability to execute entrepreneurial tasks 6. Lack of ability to make the business successful	Personal ability	
7. Lack of ability to generate financial capital 8. Lack of ability to attract investors' interest	Ability to fund the venture ^a	
9. Potential of the entrepreneurial idea 10. Value of the opportunity 11. Existence of a market for the opportunity 12. Idea too difficult to implement	Potential of the idea	
13. Disappointing important others 14. Losing the trust and respect of others 15. Losing reputation in the professional network	Social esteem	
16. Ability to meet client expectations 17. Ability to overcome technical challenges 18. Ability to execute the business plan 19. Ability to make sales	Venture's ability to execute ^a	
20. Loss of work-life balance 21. Investing time and money on other activities 22. Not spending enough time with family and friends 23. Choosing a more secure job	Opportunity costs ^a	
24. Feeling of stress 25. Feeling of frustration 26. Feeling of sadness 27. Feeling of depression	Negative affect	Affective Reaction
28. Feeling of excitement 29. Feeling amazed	Positive affect ^a	
30. Decrease in, or cessation of, opportunity pursuit 31. Procrastination of entrepreneurial action 32. Extreme caution in entrepreneurial action	Inhibition	Behavioral responses
33. Continuation of opportunity pursuit behavior 34. Increase efforts in the direction of the opportunity 35. Fear pushes you	Motivation	
36. Ignoring the pain 37. Engaging in distracting non-entrepreneurial action	Repression	
38. Changing intensity of fear 39. Changing nature of fear	Commitment	
40. Learning from previous experience	Learning	Temporal Dynamics

^a Thematic categories emerged in the second round of interviews

Using inductive reasoning, all the statements were reduced into 40 basic themes. As each theme emerged, we then engaged in a process of deductive reasoning, searching the existing literature for concepts and frameworks that could help organize and explain what

we saw in our interview data. Following this approach, we moved from basic to organizing themes. For example, description of different behavioral responses to the fear of failure experience in the basic themes led us to refer to the achievement motivation literature (Atkinson, 1957; McClelland, 1961). Building on this literature, we were able to organize the basic themes about specific behavioral outcomes into higher order categories (organizing themes) according to their motivation to avoid or approach entrepreneurial action. We then grouped the organizing themes into global theme that are represented in the final column of Table 3. Our data revealed that the experience of fear of failure involves different elements: sources of fear of failure, affective reaction, behavioral responses, level of commitment to the venture and learning experience.

Finally, we engaged in a recursive process of inductive and deductive analysis. We re-examined our interview data to gain an understanding of the relationships among the components of the fear of failure experience, and the temporal sequencing of its unfolding. Therefore, the global themes are presented in a temporal sequence that corresponds with the order in which they shape the fear of failure experience, as reported by our participants (Van de Ven, 2007). Specifically, the global themes in Table 3 highlight how the fear of failure experience is triggered by the appraisal of one or more *sources of fear of failure* (Conroy 2001; Birney et al., 1969), which in turn triggers an *affective reaction* (Lazarus 1991; Weiss & Cropanzano, 1996), leading to *behavioral responses* (McClelland, 1961). Furthermore, the *temporal dynamics* of the fear of failure experience stem from individuals' level of *commitment* to the venture and their *learning* experience in an uncertain environment (McMullen & Shepherd, 2006; Dimov, 2007). We explain these components and their relationships in the next sections.

3.5 Findings

We present our results by combining the data reduction and analysis of the two sets of interviews. We report the fear of failure experience and its cognitive, affective, and behavioral components as described by the actors involved in the study. We support our analysis with representative evidence from our data (Tables 3.4-3.7).

Table 3.4 Representative Evidence: Sources of fear of failure

Representative Quotations	Organizing Themes
<p>The main fear was that the security I had working for this company was no longer there. I was going to be running the company, which is a different kettle of fish. So I was no longer working with a secure wage but running the company and making the changes I needed to make to make it a success." 1</p> <p>"Yeah. Ironically, I am more concerned with the day job because the way things went in the last year, you know, even though I have confidence in myself, I have just seen that no matter how hard you work or how lucky you are there is always that possibility. So it is not that you are a pessimist but you just got to be prepared for it so that makes me anxious. Cause then I think I will have this new business and no source of income and then we will really have to pound the pavement for dough whereas my partner, he has his medical residency, it is a fairly sure thing, so for him I know on the funds front he is definitely not nearly as anxious about that sort of thing. It is more of a sure thing." 2</p>	Financial Security
<p>Interviewer: "Now did you have any anxiety of fear of failure about developing the idea?" Subject: "Yes because I didn't understand how much it would involve... So with me having no knowledge behind how apps work it wasn't something that I felt I could develop, even though it was a good idea." 1</p> <p>"There was anxiety in terms of how I was going to be able to create the programming, there was a bit of anxiety there." 2</p>	Personal ability
<p>"There are always anxieties on the fundraising side." 1</p> <p>"I think there is a lot of anxiety of just trying to get the funds necessary to launch the initiative." 2</p> <p>"There is always a fear of failure when you go into anything like this. But the comic side, you know, chest related [the product was a light-hearted product related to women's breasts, made by a female entrepreneur], it adds to the fear. The failure would seem even more humiliating." 1</p> <p>"A lot of smart people will say this isn't going to work, you need to do this, this, this and this but as the person with the idea and in a way in some places you're kind of ignorant because you're focused on one aspect right and being young I didn't really have that much experience especially last year when I was just getting into it." 2</p>	Ability to fund the venture Potential of the idea
<p>Interviewer: "What was the nature of your anxiety and fear?" Subject: "I wouldn't want to make my family disappointed by it." 1</p> <p>"Well nobody likes to publically fail. You know, when you stick your neck out and you say I'm going to do this, you know, family and friends were aware of it. It's not embarrassing if strangers, like some doctor in Toronto that's a customer that I don't know personally, OK, so suddenly the product is not available any more for sale, big deal, right? But, you know, family and friends knowing that we took a shot at it and it didn't work out, that's kind of embarrassing. Once we ended up winning some local awards from the Chamber of Commerce, some innovation awards, and then, you know (laughter), winding down the business later and having them say, well how's it going, and you say, uh actually we closed that business (laughter), that kind of sucked." 2</p>	Social esteem
<p>"I guess leaving the client and feeling anxiety over whether or not they will successfully use the system but I guess another example is losing a client or working with people that are very difficult. So I had a client that I worked very hard at, I put so much effort in and there is certain staff at that business that we submarine a project." 2</p> <p>"I suppose the highest levels of anxiety I would certainly say are times when you may have some hiccup in the software solution that may cause you to lose credibility with either some prospects or a customer." 2</p>	Venture's ability to execute
<p>"that was where the anxiety set in that the longer I continued to pursue this task, the more I'm kind of hurting myself in the long run." 2</p> <p>"I start to feel a lot more anxious because I'm not spending a lot of time with friends and family, or I miss an event, or I didn't know what was going on in someone's life that's important, or something like that, then that in and of itself is a trigger to me that, you know, I'm out of balance right now because I'm feeling all this negativity, I'm feeling anxiety" 2</p>	Opportunity costs

1. Evidence from the first set of interview data.

2. Evidence from the second set of interview data.

Table 3.5 Representative Evidence: Affective reaction

Representative Quotations	Organizing Themes
"Its like I loved it (feeling the fear of failure), it was very, very exciting." 2 "I should do this. It's like I was so excitedly anxious about it and I went in and every time I've felt that kind of anxiety and pushed through and done what I need to do. It's always been positive. It's always been amazing, I either learn from it or amazing connections will come out of it, whatever it is." 2	Positive affect
"The sort of stress of starting off as well – when I thought of it I felt quite panicky like this will bring a lot of stress." 1 "when you look into the future oh could I keep doing this for a few years or more, it's just daunting and horrifying." 2	Negative affect

1. Evidence from the first set of interview data.
2. Evidence from the second set of interview data.

Table 3.6 Representative Evidence: Behavioral Responses

Representative Quotations	Organizing Themes
<p>"Because it (the fear of failure) made me not enjoy it as much as I think I should and maybe not sell myself as much and push to get new people because as I'm frightened they won't like me and their dogs won't like me and that something terrible will happen to their dog." 1</p> <p>"On the failure side, you could I suppose say okay, well if I'm not entirely certain of this, maybe I won't ask for some additional investment money right now from, you know, person X because you don't want them to lose their money or something like that so... maybe then you'll operate the business as less capital then you sort of to make it successful, so that would be probably the only negative I can think of." 2</p> <p>"Ah sometimes I think it (the fear of failure) can lead us to sort of like maybe not necessarily investing into the right parts of the business at the right time I would say so you know with anxiety like that and sort of feelings that fear of you know how much money do I put into this and is this a worthwhile cause and you know at what point should we be investing further and I think there has been a few times along the way that certainly with the secondary business where I have looked at it and said you know we could probably gain some more like a larger client base if we put more money into advertising and you know we did some more on the promotional end and hesitated along the way looking at it with you know again sort of that sort of anxiety I'm saying is this actually going to be worth the extra investment and that side of things." 2</p>	Inhibition
<p>"Because it made me work harder. That is what drives me – that fear of failure. Anything I do, an entrepreneurial idea or even uni work, I have that thing of I will not fail. It is fear of failure. One doesn't want to fail so they try to do their upmost and work as hard as they can and do their best. And sometimes ventures do fail, as I've had happen. Like in the second year this failed as we got the price wrong. But fear drive you on." 1</p> <p>"everything I think probably a positive effect in a lot of ways because a). It's you know it (the fear of failure) pushes me to work harder and to you know take more care into what I am doing and to educate myself to the best that I can as I was developing these businesses. So I think overall probably it you know had a positive effect." 2</p> <p>"It becomes a fuelling force where it makes you want to work harder and you want to see it right. Like there's a, I don't want to say it is a David and Goliath thing but there is like always that element of, you know, you know the stats behind success and failure and you're up against something big and, you know, it is motivating to know that maybe you can find some success in this crazy obstacle. I don't know." 2</p>	Motivation
<p>"I think it (the fear of failure)'s one of those things no matter what is going on inside if you like you simply can't afford to let it surface, and let clients or the team see that. You've got to learn to keep it all in I suppose." 1</p> <p>"Rather than focus on the project or focusing on how I can get the grant money or focusing on a project that requires less of an investment. I sort of focus on things that are maybe not so central to my project like a, looking at doing some sort of unrelated data analysis" 2</p> <p>"There is something romantic about ideas where you just believe in them where you just have to ... you have to believe in them because there is so many people or so many, I don't know, other things telling you why it wouldn't work so that fear comes, ah, you just have to put it aside." 2</p>	Repression

1. Evidence from the first set of interview data.

2. Evidence from the second set of interview data.

Table 3.7 Representative Evidence: Temporal Dynamics

Representative Quotations	Organizing Themes
<p>“I am experiencing more anxiety now (a ‘few weeks into the project’) than at that point (when idea was conceptualised) when it went from being an idea to a reality was when I sat down with one of the businesses that I thought would get involved with the pilot...So I have more anxiety now because it’s 5 weeks until the pilot ... I’m over halfway... but until they’re nailed and invoiced and followed up, and until they walk through the door on the day that is where the anxiety will come! The anxiety didn’t come beforehand because at that point it was a notion, it’s now a reality.”¹</p> <p>"development phase and at the beginning your anxiety is how do I design this product so that it works and then later on it becomes how do I manufacture and supply it and kind of funding that is required and then there’s sale and marketing. Can I sell enough to cover the cost of this... you know something you’ve developed? Something left over. How do you do payroll every month? How do you grow a business? So they were all concerns which happened in progression. None of them ever go away completely. It’s all part of the fun of running a business." ²</p>	Commitment
<p>“I think once we had made the leap that fear of failure lessoned and it became an ongoing battle to try and find the right direction we were going in.”¹</p> <p>"One of the things that I have found is that sometimes the anxiety isn’t always... it doesn’t have a source that is traceable like causally to the project you’re working on. I’ve also found that there’s just a day to day, well more a week and month to month fluctuation of moods that occasionally if you over interpret it, you know if I’m in a bad, you know, a lower mood one week and I like look at my projects and I see only negative things and reasons why it can’t happen I started to learn that that’s actually not associated with the projects but it’s associated with my emotions. So I’ve actually recently been learning to actually separate that anxiety out because I’ve learn that it’s just transient." ²</p>	Learning

1. Evidence from the first set of interview data.
2. Evidence from the second set of interview data.

3.5.1 Sources of Fear of Failure

A key element of individuals’ experience of fear of failure relates to its specific causes or sources. The starting point of the experience is the occurrence of an event, which is perceived as a threat to the success of the venture. Events can be defined as both real and imagined/anticipated happenings that occur to the entrepreneur (Taylor & Schneider, 1989; Van de Ven & Engleman, 2004). The process of appraisal arises in a series of concerns that participants recognized as the origin of their fear of failure. Accordingly, we derived 23 basic themes to describe individuals’ sources of fear of failure, which we grouped into the organizing themes of *financial security*, *personal ability*, *ability to fund the venture*,

potential of the idea, social esteem, venture's ability to execute, and opportunity costs (see also Table 3.4).

Financial security. This source of fear of failure refers to individuals' concerns over loss or potential for loss of their livelihood and stored wealth as triggers of fear of failure. Threats to personal financial security were a prominent and frequently cited source of concern in both rounds of interviews. Potential and active entrepreneurs were afraid of investing too much of their own money into the business, not being able to pay the debt back and losing their house as the result of potential insolvency.

Respondents were preoccupied about the consequences of not having a steady income to meet obligations and maintain certain living standards. This was especially relevant for people who left a secure job position to start a business. One of the active entrepreneurs noted that as he moved further away from employment and into "being" an entrepreneur, his security was in some senses diminishing. He spoke of experiencing fear of failure as being: *"mainly because ... I'd always had jobs that were secure and that I'd trained to do and ones that I knew I was getting a certain wage through every month to pay the rent and bills...would I be able to afford to live?"* The uncertain nature of entrepreneurship makes financial security a salient source of threat.

Personal ability. This source of fear of failure comprises concerns over individuals' ability to perform actions associated with the pursuit of an opportunity or idea, and/or the development of the venture. The entrepreneurial process involves a series of stages that follow one another including the idea or conception of a business, the initiation of operations, the implementation of the business and its subsequent growth (Davidsson, 2005; Shane & Venkataraman, 2000). Because the development of each stage requires the development of resources and competencies, the process of taking action can raise concerns

about the ability to support the success/survival of the venture. As respondents moved through the stages of the process, fear of failure emerged from a tension between the need to execute a specific tasks (e.g., developing the product/service, preparing for a pitch, hiring people, satisfying clients' requests, meeting the deadlines, etc.) and their own level of competence. If the tasks are not successfully completed because of their perceived inability, entrepreneurs blame themselves and feel responsible for the failure. This is articulated by two of the entrepreneurs in our sample: *"Now, it's totally my problem, it's all my problem. If I don't succeed it's completely my fault" or "If you fail you leave yourself feeling deflated and pointless."* As these statements illustrate, a concern about personal ability (one source of fear of failure) is described in terms of being threat to self-esteem (another source of fear of failure that we discuss below). In this sense, these two sources of fear of failure appear to reflect two sides of the same coin.

Ability to fund the venture. This commonly raised source of fear of failure is related to both personal ability and to financial security. Several respondents made comments regarding their anxiety/fear of failure stemming from their ability to generate or attract needed financial capital. As two active entrepreneurs said, *"Where am I going to find even first stage funding to help this company go anywhere if I can't get any investment? So that was probably the biggest [fear] at that point for sure" and "I think there is a lot of anxiety of just trying to get the funds necessary to launch the initiative."* While both statements address monetary concerns, they are distinct from other sources in that they do not focus upon the possibility of personal financial risk, but rather on the capacity or probability of obtaining the financial capital to start or sustain the venture. This source of threat therefore seems to exist at the intersection of financial worries and concerns over ability.

Potential of the idea. A further source of fear of failure that might be idiosyncratic for entrepreneurial contexts is concern over the potential of the idea. It refers to fearful thoughts over the validity, potential or future market of the core idea on which the venture is based. Studies have already demonstrated that entrepreneurs often refer to their business as “their baby” (Cardon et al., 2005: 127), and assume responsibilities for the successes and failures of their venture, which can be attributed to their personal abilities as well as to the potential and quality of the opportunity (Shepherd, 2003; Ucbasaran, Shepherd, Lockett, & Lyon, 2013). While *personal ability* refers to a self-oriented source of fear of failure, *potential of the idea* organizes statements that indicate the presence of an opportunity-oriented source of fear of failure. As a respondent recalled, “*You have to make it a design, and if it works then you know it’s right. And if it’s not right, it doesn’t work at all... from my point of view that’s where the anxiety has been.*”

Social esteem. Threats to social esteem represent an additional source of fear of failure that was frequently reported across the two pools of respondents. In entrepreneurship, there are multiple stakeholders that the entrepreneur seeks to satisfy. Our respondents referred to each of these stakeholders as important others who they either wished to keep involved, or did not want to let down. As these statements illustrate, these important others can include: investors (“*The beginning of the anxiety was am I interesting enough to cultivate someone to take their time*”), business partners (“*the other thing that adds to the pressure is the fact that I’m not alone, when somebody else is involved you’ve got to be 100%*”), customers (“*dealing with other people’s money, you have this level of anxiety of well I need to deliver, I need to perform, I need to get this for my customer*”), family (“*I wouldn’t want to make my family disappointed by it*”), and employees (“*there’s so much hope and expectation behind it that I don’t want to be the one who made it collapse*”).

Venture's ability to execute. A further important and uniquely entrepreneurial source of fear of failure is evident in concerns over the venture's ability to execute. In one sense this is similar to concerns over personal ability. However, while personal ability concerns are distinctly ego-centric, concerns over the capacity of the venture (as an organizational entity or team) to execute the variety of entrepreneurial tasks appears to be broader and less ego-centric. It is not a matter of either devaluing the self, nor a matter of damaging social esteem. This organizing theme is about anxieties and fears around specific activities that the venture, rather than the individual alone, must undertake. Examples of statements expressing this source of fear include: *"I suppose the highest levels of anxiety...are times when you may have some hiccup in the software solution that may cause you to lose credibility with either some prospects or a customer"; "I think one of the big anxiety points is around intellectual property and how to protect it"; "So in our business we have some issues on successful product manufacturing right? We couldn't get stuff to pass quality control for a while....so you have specific anxiety around that problem."*

Opportunity costs. A final source of fear of failure reflects general concerns over opportunity costs for either time or money required to develop the venture. The participants in the study were afraid of not being able to spend time on other income producing endeavors, losing their work-life balance, and not having enough time to spend with family, friends, and loved ones. As one of the participants described, *"I start to feel a lot more anxious because I'm not spending a lot of time with friends and family, or I miss an event, or I didn't know what was going on in someone's life that's important, or something like that, then that in and of itself is a trigger to me that, you know, I'm out of balance right now because I'm feeling all this negativity, I'm feeling anxiety."*

One of the striking features of these seven sources of fear of failure is their interrelatedness. This is illustrated by the following statement: “*so you have specific anxiety around that (manufacturing) problem, and those sort of things then generate cash flow problems, and then you worry about payroll and what’s the impact on people if I can’t meet payroll.*” These different sources of fear are not necessarily independent. They might be usefully grouped in terms of whether they arise from sources external to the individual (e.g., financial security, ability to finance the venture, and venture’s ability to execute) or those that rest upon internal evaluations (e.g., personal ability, potential idea, social esteem, and opportunity costs).

3.5.2 Affective Reaction

While describing the experience of fear of failure, respondents made statements referring to moods and emotions accompanying such experience. Consistent with other studies on emotions (Frijda, 1986; Frijda, Kuipers, & ter Schure, 1989; Weiss & Cropanzano, 1996), affective states emerged following the cognitive appraisal of emotionally relevant events. Accordingly, we derived six basic themes to describe individuals’ affective reactions, which we grouped into the organizing themes of *negative affect* and *positive affect* (see also Table 3.5).

Negative affect. Our data analysis shows that as a behavioral response, negative affect (especially stress) played a prominent role in the respondents’ comments. They indicated that: “*the thought of debt and letting myself and other people down ... it causes people a lot of stress*” or “*This one period of time, I got seriously depressed and had to go and see somebody ... it was a depression that was sort of panic-anxiety-driven ... it was looking bad...*” As these statements illustrate, in some cases the negative affect was strong enough

to be a source of concern. In other cases the negative affect was still present, but on a less serious scale: *“I don’t think it slows you down but it does lead to a bit of frustration at times.”* Therefore, while negative affect is commonly associated with the experience of fear of failure, the level of arousal of that affect varies considerably from very low levels of arousal (depression), through moderate levels of arousal (frustration) to highly aroused negative affect (stress). In this sense, fear of failure as a phenomenon does not fit well with the concept of fear as a discrete emotion. However, not all statements were about negative affect.

Positive affect. Our data show that positive affect can result from intense negative emotional activation. This affective response can be seen in emotional reactions such as exhilaration (e.g., *“the anxiety is the reason you become sort of excited about it all”*) or relief (e.g., *“It’s incredibly satisfying when you actually do that thing you’re afraid of”*) when the source of negative emotion is overcome. Interestingly, the extent to which positive affective reactions (e.g., being satisfied) are reported appears to depend upon the behavioral orientation and responses of the individual. That is, positive affect sometimes appears to be an outcome based in entrepreneurs’ decisions or actions, rather than being a source of information that signals the threat of failure or being concomitant with the appraisal of a threat.

3.5.3 Behavioral Responses

A central focus in our interviews with entrepreneurs was whether the fear of failure was related to inhibition/withdrawal or persistence and striving. Accordingly, we saw eight basic themes that described nascent entrepreneurs’ and existing entrepreneurs’ behavioral

responses to the experience of fear of failure. We grouped these into three different action-based organizing themes: *Inhibition*, *Motivation*, and *Repression* (see also Table 3.6).

Inhibition. This behavioral response represents the decrease or cessation of opportunity pursuit behavior, the preference for inaction over action, and the tendency to procrastinate fear-arousing activities. Such behavior can also manifest in taking extreme caution in entrepreneurial actions. In the first round, seven of the 21 respondents who had eventually chosen not to pursue their entrepreneurial aspirations made statements regarding the impact of fear of failure on behavior. It was common, although not universal, for these individuals to state that fear of failure had in some way demotivated them, or conversely had motivated them to avoid putting effort in, and ultimately contributed to them not pursuing their entrepreneurial idea. For example, one respondent said that the reason he did not go forward with the idea was due to: *“Lack of experience, lack of confidence and a fear of failure.”* When probed further on what was meant by fear of failure the same respondent, who had wanted to start a photographic studio business, stated: *“I’m good enough to do it but I’m scared ... Yes, I get nervous. It’s fine if I’m taking photos for friends and family, I’m good enough to do it, but if it’s for other people I am afraid I’ll fail.”* Fear of failure was not the only reason for withdrawal. Other reasons included money and time (e.g., *“No, I think along with other things like finance and the time thing, it wasn’t the main thing that did it but it was there”*). However, consistent with prior work on fear of failure in entrepreneurship, many respondents who had not started their venture described fear of failure as a source of inhibition.

The same theme arose for those who had started a venture. In this case, although fear of failure did not completely inhibit all entrepreneurial action, it slowed the entrepreneurs down (e.g., *“...I think where anxiety has been a hindrance... has been more related to the*

rate of change or the rate of adoption or the rate of decisions. I think it slows you down”), or had led them to procrastinate (e.g., *[fear of failure] “sort of dilutes my focus...it causes procrastination”*). Our data thus suggest that the inhibitory effects of fear of failure are also present for active entrepreneurs. Fear of failure can prevent entry into entrepreneurship, or negatively influence the direction and the level of effort given to otherwise important tasks within the entrepreneurial process.

Motivation. This behavioral response is in contrast with the dominant perspective in the entrepreneurship literature, in that the behavioral response to fear of failure was not limited to inhibition. Indeed, we saw statements that described an increased level of intensity and persistence of behavior in the direction of an opportunity, idea or venture, which was fuelled by the experience of fear of failure. This included all those actions undertaken to approach the fear-arousing threat in favor of some kind of entrepreneurial behavior. Across both the first and second sets of interviews, there were 15 independent references (by respondents with start-up experience) to fear motivating action. For example, respondents said that fear of failure: *“does mean that you do work a lot, on the business side, you work a lot harder”*; or *“would never inform me to not try again. In fact, quite the opposite. It gives me more fuel to be successful in another direction or another venture so I think that’s... you have to get back on the horse, back on the bike... it’s a positive experience ultimately.”* Evidently, rather than simply being fearless, some entrepreneurs also experience fearful thoughts and feelings, but may ultimately respond differently and continue on despite (or even because of) these experiences.

Repression. This represents a third behavioral response that may denote individuals’ inability to cope with the painful situation. On a behavioral level, repression manifests itself as entrepreneurs engage in a series of distracting activities that aim to suppress and dismiss

the experience of fear. Although it may be classified as a kind of avoidance behavior, we distinguished it from motivated or inhibited responses in that it does not involve actions oriented towards or away from the opportunity, idea, or venture. Instead, it involves actions that are completely unrelated to the opportunity, idea, or venture and actions that pretend that the fear does not exist. This latter case is expressed by one of the respondents who said: *“I think [the fear of failure] is one of those things no matter what is going on inside if you, you simply can’t afford to let it surface, and let clients or the team see that. You’ve got to learn to keep it all in.”* This behavior allows people not to feel the fear of failure and repress or suppress the corresponding negative thoughts and feeling.

In sum, our data indicate there is good evidence to suggest that fear of failure must be either an inhibitor or a motivator. At this point, it is also worth noting that individuals very often paired their response of how they were motivated to strive harder with a comment that they lacked any other option. For example, one respondent noted that: *“Failure is not an option so I work ridiculously long hours. It’s a spur.”* This is consistent with the observation that when a person feels constrained to remain in an achievement situation they might perceive that failure is truly not an option and that either greater striving or repression are the only solutions available to them (Atkinson, 1957; Birney et al., 1969).

Nevertheless, this does not mean the experience of fear is unimportant or inconsequential. In addition to promoting inhibition, motivation or repression, there is also some evidence of how engaging in these behavioral responses can affect two entrepreneurial outcomes: entrepreneurial performance and wellbeing. Several statements indicate that fear of failure led to a focusing of attention on problems, threats or issues, at the expense of other considerations. While it cannot be stated categorically that this is dysfunctional for performance, it is hinted at in a number of statements: *“So instead of*

being on the phone trying to get a customer, you are sitting there talking about why we need to call more customers or why we don't call customers anymore, why we should start emailing them. So you are talking about it and not doing it"; "the anxiety made me check, re-check, test, re-test too much and that uses up a lot of time"; "Anxiety would get to me when I was too focused on like I had to be perfect which in the big picture doesn't matter."

Similarly, acting under persistent fear and anxiety can have negative impact on individuals' psychological and physical wellbeing. Some of our participants stated that when the stress was intense, and they by reacted increasing their level of efforts on a task, they felt their *"body getting a little tired" or "have insomnia"* because of the fear of failure. As one entrepreneur recalled, *"anxiety can be so high I break out into a skin rash."*

3.5.4 Temporal Dynamics

While fear of failure is commonly treated as a static variable, our data showed that in practice it varies. Our interviews suggested three basic themes that demonstrated how the experience of fear of failure is subject temporal dynamics. We have grouped these basic themes into two organizing themes, which we labeled *commitment* and *learning*. Both comprise statements about the changing intensity and nature of fear of failure across the various stages of the entrepreneurial process (see also Table 3.7).

Commitment. This organizing theme is based on statements, which indicate that fear of failure perceptions increase as the level of commitments to the business increase, as the business became increasingly public, and as their obligations and responsibilities outside of the business grew. As described by one of our respondents: *"I would say that my anxiety level was fairly low to begin with... mid levels of anxiety in the product demo era and ... higher level of anxiety at the delivery stage."* As such, this organizing theme refers to

variations in the experience of fear of failure that is caused by changing and transitory external conditions.

Learning. This organizing theme is based on statements that included indications of how the intensity of the experience of fear of failure changed as result of an internal process of learning from previous experiences. As described by one entrepreneur: *“from over that six months the anxieties started shrinking and shrinking more and I felt more and more confident in our ability to deliver”*). This entrepreneur explicitly linked improvements in the ability to deliver to a reduction of anxiety, which is consistent with recent studies that have highlighted the dynamic aspect of fear of failure across the different stages of the entrepreneurial process (Hessels et al., 2011; Autio & Pathak, 2010; Brixi et al., 2009).

3.6 Conceptual Development

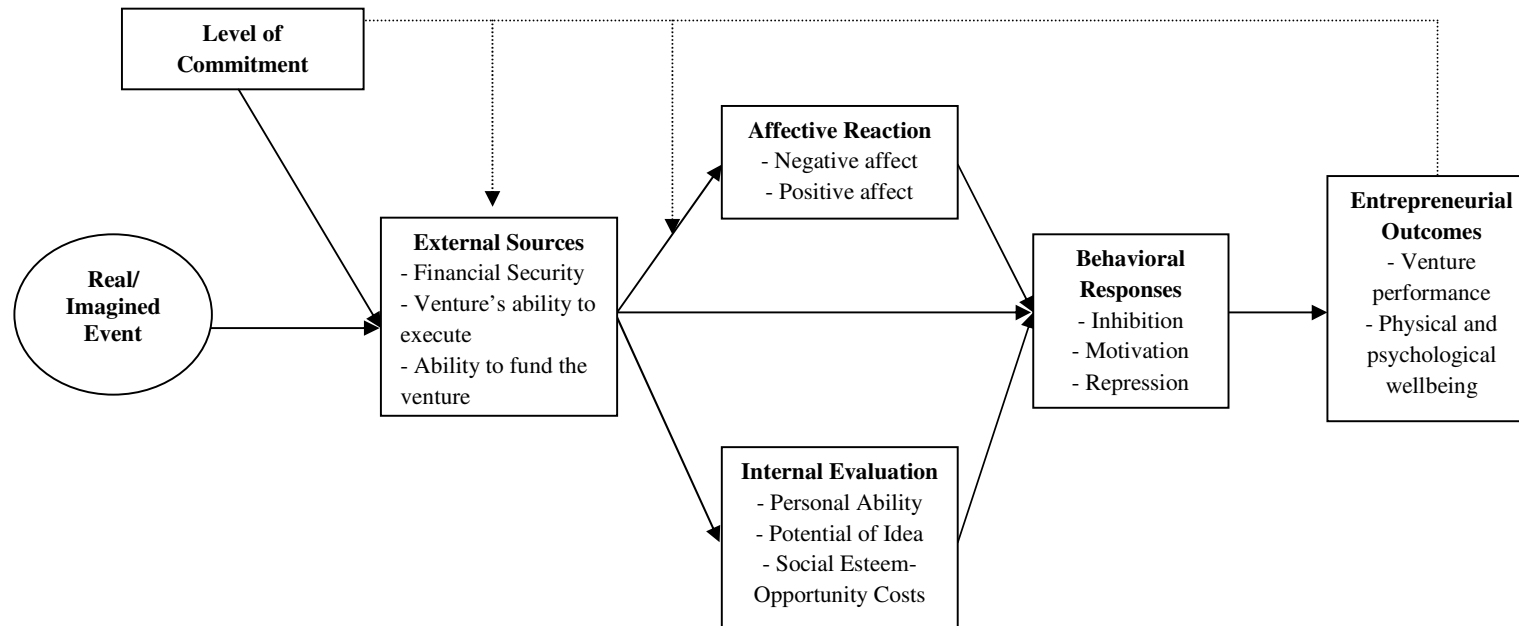
Our thematic analysis of interview data suggests that there are several aspects or components of the fear of failure construct that need to be taken into account. As we have noted, in the entrepreneurship literature, fear of failure has in the past been viewed in terms of the perceived risk of starting a new venture (Arenius & Minniti, 2005), as a socio-cultural trait (Vaillant & Lafuente, 2007) and as a negative emotion experienced as the result of environmental cues (Li, 2011). Within the broader psychology literature, fear of failure has likewise been studied as a trait (e.g., Birney et al., 1969), as a basic emotion (Ekman, 1992; Lazarus, 1991; Plutchik, 1994), and in terms of the specific appraisals that are perceived to cause it (Conroy, 2001). However, rather than considering fear of failure as a tendency to avoid risk or uncertainty, as a discrete emotion, or in terms of the appraisal of sources of threats, we frame fear of failure in terms of a constellation of all of these elements that is based in the experience of fear of failure. This approach moves us away

from a binary conceptualization and towards a broader and more dynamic one. We now explain the relationships among sources of fear of failure, affect, behavioral responses, and outcomes of the experience of fear of failure in entrepreneurship. Accordingly, we clarify the role and importance of each component for the unfolding of the fear of failure phenomenon and its association with entrepreneurial activity and outcomes. We also suggest several propositions that could be tested through future empirical research.

3.6.1 A Model of Fear of Failure in Entrepreneurship

Drawing from this analysis, we bridge the inductive data into a model, depicted in Figure 3.1, that demonstrates how the experience of fear of failure phenomenon begins and evolves within the entrepreneurial process.

Figure 3.1 A Model of Entrepreneurial Fear of Failure



The model suggests that events are the proximal causes of the fear of failure experience (Weiss & Cropanzano 1996). They can be defined as “natural unit of social process” (Van de Ven & Engleman, 2004: 352). Events are what entrepreneurs do (e.g., pitching the idea, asking for funding, developing the product/service), or what happens to them (e.g., losing a client, not being paid, not delivering on time) within the entrepreneurial process. They can be both real and anticipated in the entrepreneur's mind. However, to trigger fear of failure, events have to be appraised as significant to the individual. Their significance depends on the degree to which they are perceived to increase the potential for failure. In other words, experiencing fear of failure depends on how strongly individuals believe or anticipate that certain aversive consequences will occur when they perceive that their venture is failing.

This part of the model provides insights into the role of the specific sources of fear of failure appraisals, and may be compared and contrasted with findings in other contexts. The idea that some cognitive beliefs are associated with fear of failure is consistent with psychology research on multidimensional models of this construct in other achievement contexts (Birney et al., 1969; Conroy, Metzeler, & Hofer, 2003; Conroy, Willow, & Metzler, 2002). Birney et al. (1969) proposed that there are three appraisals associated with fear of failure: 1) fear of devaluing one's self-estimate, 2) fear of non-ego punishment, and 3) fear of a reduction of one's social value. Similarly, Conroy et al. (2002; 2003) distinguished five appraisals associated with fear of failure, which correspond to its five dimensions: 1) experiencing shame and embarrassment, 2) devaluing one's self-estimate, 3) having an uncertain future, 4) important others losing interest, and 5) upsetting important others. The *sources of fear of failure* in our model reflect the cognitive nature of existing multidimensional conceptualization of fear of failure, but articulate it as emerging from different perceptions of the consequences of failing.

Within the entrepreneurial context, the cognitive appraisals of potential threats to success and the aversive consequences of failing (see the *sources of fear of failure* global theme) include threat to entrepreneur's *financial security*, *personal ability*, *ability to fund the venture*, *venture's ability to execute*, the *potential of the idea*, *social esteem*, and *opportunity costs*. Although these factors are strongly associated with the entrepreneurial context, some of them can be generalized to those sources that are implicated in existing models of fear of failure. For example, threat to *financial security* falls under what Birney et al. (1969) identified as "fear of non-ego punishment," and Conroy (2001) referred to within the category of "having an uncertain future." Similarly, *personal ability* is very consistent with Birney et al. (1969) and Conroy's (2001) "fear of devaluing one's self estimate." It is clear that concerns over wasted time or money (*opportunity costs*) can be generalized to "fear of non-ego punishment." *Social esteem* is what Birney et al. (1969) described as "fear of a reduction in one's social value," and the two dimensions Conroy (2001) described as "important others losing interest," and "fear of upsetting important others." These overlaps confirm the consistency of our model with existing conceptualization of fear of failure, but also the model's increased entrepreneurial specificity.

Nevertheless, not all of the sources of fear of failure map on to prior research. For instance, *ability to fund the venture* falls at the intersection of financial worries and concerns over ability. In this sense, it is not clear a priori whether this source relates to the threat of non-ego punishment, or threat of personal diminishment, or possibly both (Birney et al., 1969). A *venture's ability to execute* includes anxieties and fears around specific activities that the venture itself, rather than the individual, must undertake. Because it is extremely focused on the entrepreneurial context at the organization level, it has not been captured in prior models of the sources of fear appraisal (Birney et al., 1969; Conroy, 2001). *Potential of the idea* is also strongly related to the context. It is

not clear whether concerns over the entrepreneurial idea can solely be attributed to the category of “fear of shame and embarrassment,” or whether this reflects another aspect of “fear of an uncertain future.” When an individual decides that an opportunity represents a desirable and feasible course of action for her- or him-self (Shane & Venkataraman 2000; Cardon et al., 2005; Shepherd, McMullen & Jennings 2007), the entrepreneur assumes responsibilities for the successes and failures of their venture, which can be attributed to their *personal ability* as well as to the *potential of the idea* (Shepherd, 2003; Ucbasaran et al., 2013). Here then, is a second example of where existing models of fear of failure may not be a perfect fit for the entrepreneurial context. In this case, the ambiguity results from the multidimensional nature of uncertainty associated with conceiving and pursuing an opportunity that is faced by the entrepreneur. This means that fear of failure associated with opportunities may be either ego-based, non-ego based, or simultaneously both (Birney et al., 1969).

In our model, we logically divide the sources of fear of failure perceptions into two sets: a set of external or situational cues that may be appraised for their threat potential, and a set of ego-centered (internal) evaluations. Relevant external, situational cues include *financial security*, the *venture’s ability to execute*, and the *ability to fund the venture*. These factors represent external cues that appear to be the subject of appraisals leading to fear perceptions. The second set of threat-related cognitions is ego-centric. Much research in entrepreneurial motivation has suggested that entrepreneurs engage in a process of evaluating feasibility and desirability of engaging in entrepreneurial action (Krueger, 1993). The interview subjects commonly report engaging in judgments about *personal ability*, *social esteem*, the *potential of the idea*, and *opportunity costs*, which combined reflect the expectancy (feasibility) and instrumentality (desirability) of actions. We propose that these cues are endogenous with respect to the external threats:

external threat cues trigger appraisal of the feasibility and desirability of action choices, as well as potential implications for social-esteem. This would suggest that:

Proposition 1: Within the entrepreneurial process, the experience of fear of failure is triggered by the appraisal of external cues relating to financial security, the ability to finance the venture, and the venture's ability to execute, which in turn activate the cognitive assessments of personal ability, the potential of the idea, social esteem, and opportunity costs.

This notion of external cues driving internal assessments is commensurate with Simon's articulation that "the apparent complexity of . . . behavior over time is largely a reflection of the complexity of the environment in which he finds himself" (1981: 65). In this sense, the complexity of the experience of fear of failure is largely derived from the combination of the external and the internal, with the external leading off (Mitchell et al., 2014b).

Our interviewees report both negative and positive affective states in association with the external cues. These are also expected to be associated with the motivational calculus since affect represents an information source that is included within assessments of valence, expectancy and instrumentality (e.g., Hayton & Cholakova, 2012). Previous studies have shown that affect represents an important source of information to which individuals pay attention and incorporate into decision making (e.g., Clore & Huntsinger, 2007; Li, 2011; Loewenstein et al, 2001; Welpe et al., 2011). Affective states are important for several reasons. Emotions and moods exert "control precedence" over an individual (Frijda, 1993). Individuals in a given emotional state are controlled by that emotional state, and their cognitive processes and behaviors are influenced by that emotional state for as long as the emotion persists. Similarly, mood has been shown to influence information processing strategies, memory, probability judgments, and social behaviors (Isen & Baron, 1991; Morris, 1989). The effects of

mood are asymmetric, meaning that the outcomes of negative affect are not simply an inverse of those associated with positive affect (Morris, 1989). Negative affect is expected to promote local search, narrowing the focus of attention, leading to a more pessimistic evaluation of feasibility and desirability of actions (e.g., Hayton & Cholakova, 2012). Negative moods are associated with a greater focus on details (e.g., Iyengar, Wells, & Schwartz, 2006), may be more attentive to discrepancies (e.g., James, Borderson & Eisenberg, 2004; Gasper & Clore, 2002), and may make individuals more alert to risks and less likely to rely upon efficient, heuristic judgments (e.g., Hassan, Shahzeb, & Shaheen, 2013). This is consistent with observations that entrepreneurs who experience fear of failure are likely to focus on specific *external sources of a threat*, perhaps at the expense of the bigger picture.

Building on these observations, we can clearly distinguish two components in the model: the *cognitive* and the *affective* component. While the cognitive component (external threats appraisal and internal evaluations) refers to beliefs about the object (consequences of venture or entrepreneurial task failure) (Breckler & Wiggins, 1989), the affective reaction represents feelings that are experienced in relation to the attitudinal object (failure of the venture or the entrepreneurial task). If we are interested in understanding the impact of fear of failure on behavior, then we must consider the effect of both components, as they can stimulate distinct but overlapping behavioral outcomes (Weiss & Cropanzano, 1996). As such, behavioral responses to fear of failure emerge as the result of the combined effect of cognitive appraisals and affective reaction. This would suggest that:

Proposition 2: The appraisal of external sources of threats, the internal evaluations and the affective reaction it generates combine to serve as triggers to one or more behavioral responses, potentially for the same individual.

The data are very clear that threat perceptions, internal evaluations, and affective reaction do not automatically imply a tendency to avoid engaging in entrepreneurial action as suggested within the existing entrepreneurship literature. Rather, people manifest their fear of failing in different behaviors. Consistent with the achievement motivation literature (Atkinson, 1957; McClelland, 1961), we saw that people tend to avoid or approach action when experiencing fear of failure. We label these behavioral responses as simply *inhibition* and *motivation* to allow for a wide range of entrepreneurial actions and settings to be addressed from this model (e.g., initiation of entrepreneurial action, continuation, cessation, follow-on entrepreneurship, and reaction to success/failures).

In the case of *inhibition* individuals might avoid a situation they have not yet entered, withdraw from a situation that they are already engaged with, reduce their efforts, or redirect these efforts to easier objectives. Similarly, *motivation* includes initial engagement, the commitment of renewed energy to a task, the maintenance of effort in a given direction, and the selection of a task of a particular level of challenge. We also found that these two behaviors are not mutually exclusive: the same subject can be at times motivated and at other times inhibited by the fear of failure experience. The achievement motivation literature may argue that engaging in both behavioral responses is a function of the co-existence of approach and avoidance tendencies within the same individual (Covington, 1992; Elliot & Church, 1997). Although we agree with such assumption, we also believe that the interaction of more proximal factors (sources of fear of failure and affective reaction) determine the behavioral choice.

Psychology literature also recognizes a third behavioral response to fear: paralysis in the face of the threat (Gray, 1971). Such a response does not strongly emerge from our data. However, our data do suggest that some individuals choose to repress the fear of failure by undertaking actions to put the feeling out of the mind. In linking the

repression response with relevant literature, we connect with discussions on defensive mechanisms for coping with anxiety (Freud, 1936). Individuals unable to cope with fear/anxiety push uncomfortable thoughts into the subconscious and force themselves to ignore the feeling. Accordingly, our participants engaged in activities not related to the entrepreneurial process, as trying to forget where the uncomfortable thoughts and feeling came from. *Motivation* and *inhibition* can be also seen as ways of coping with the fear of failure, because they refer to behavioral efforts to manage an uncomfortable situation (cf. Lazarus & Folkman, 1984). This would suggest that:

Proposition 3: Behavioral responses to the external, internal and affective triggers associated with the experience of fear of failure can include action, inaction and repression, potentially for the same individual.

Engaging in behavioral responses as a result of the fear of failure experience has implication for the entrepreneur and the entrepreneurial process. In our model, we demonstrate that external sources of threats, internal evaluation and affective reaction have an indirect influence upon entrepreneurial performance. People can decrease efforts on a task or focus more on a specific activity. Although our data show that there is an impact on performance, it is very hard to establish whether fear of failure is always detrimental or beneficial for the entrepreneurial process. Similarly, we saw that responding to persistent fear of failure can have negative impact on individuals' psychological and physical wellbeing. These findings are close to the psychological hypothesis that people with high level of fear of failure are more likely to experience negative consequences for personal wellbeing such as high levels of anxiety, emotional fatigue, and burnout while performing (De Castella, Byrne, & Covington, 2013; Martin & March, 2003; Covington, 1992). Furthermore, repressing fear can be also extremely dangerous for physical wellbeing (Freud, 1936). By including entrepreneurial outcomes

in our model, we connect the fear of failure experience with the implication it generates for the individual and for the venture. This would suggest that:

Proposition 4: The experience of fear of failure can have negative, but also positive consequences for performance, but that the sustained experience of fear of failure will increase risks for the emotional and physical well-being of the entrepreneur.

Contrary to existing entrepreneurship research, we demonstrate that fear of failure is not a static construct. Implicit in the temporal dynamics of fear of failure is the need to focus on the changing nature of affective experiences (Weiss & Beal, 2005). Research on emotions and moods emphasizes a within-person fluctuation of affect levels over time (Weiss & Cropanzano, 1996). Changes in the level of fear of failure, as described in the statements in the data, are a function of the entrepreneurial environment, where events unfold one after another (Dimov, 2007; Cope & Watts, 2000; Morris et al., 2012). The significance of an event is strongly influenced by the entrepreneur's level of *commitment* to the venture and *learning* from previous experience. Failure is always a traumatic event (Ucbasaran et al., 2013). However, the financial, social and psychological costs associated with failure can vary with the level of involvement and investment in the venture (e.g., the time, money, efforts [Shepherd, Wiklund, & Haynie, 2009]). This explains why the intensity of the fear of failure can be influenced by the stage of an entrepreneur's venture. Our data also show that previous experience can influence the affective response to an external cues (indicated in figure 1 by the dotted feedback lines), where the tendency to feel stress or frustration will be mitigated by repeated event-based experience (Morris et al., 2012; Baron, 2008). If levels of commitment to the venture and learning processes are responsible for variation in event appraisals, then they will indirectly change the affective reactions and the responses

they generate. Accordingly, the relationships among the components of the fear of failure experience are subject to constant variability.

Proposition 5: The individual experience of fear of failure is temporally dynamic, with commitment to the entrepreneurial process over time leading to the potential to experience fear of failure and with learning processes mitigating the potential to experience fear of failure.

3.6.2 Theoretical Implications

In our model, fear of failure is articulated as “a constellation of reactions” (Weiss & Cropanzano, 1996, p.17). This is consistent with definitions of affective experience (e.g., Plutchik, 1994; Frijda, 1993) as including valenced affect, which is linked with a cognitive appraisal of an eliciting event (internal or external), physiological changes, and a tendency or readiness for action in response to the eliciting event. The reports of entrepreneurs reflect Frijda’s (1993) notion of emotional episodes, which reflect dynamic, but coherent flows of affective experiences that link together multiple specific affective events around a core relational theme (Lazarus, 1991). They are also consistent with Weiss and Cropanzano’s (1996) Affective Events Theory, which emphasizes the role of events as proximal causes of affective states. The appraisal of these events produces affective reactions (e.g., feeling joy or anger), which in turn influence attitudes and behavior in the work context. This enables us to consider multiple factors that are apparent in the experience of fear of failure to actors in the entrepreneurial field. These factors include affect, situational cues, and expectancy components, as well as positive and negative thoughts about themselves and their ideas. Ultimately, fears influence behavior and outcomes, but not always in the anticipated direction.

Although these observations approach fear of failure as a general affective experience, our research confirms the assumption that it has to be treated as a context-

sensitive phenomenon (Cacciotti & Hayton, 2015). If fear of failure results from the appraisal of significant experiences in evaluative situations that might threaten an individual's sense of achieving success (Birney et al. 1969; Conroy 2001), then we must consider those events that can generate individuals' fearful reactions. Psychology research has demonstrated that the relevance of these specific events and their role in shaping the fear of failure experience is a function of the achievement domain in which they unfold (Conroy, Poczwardowski, & Henschen, 2001). Our data demonstrate that the features of the entrepreneurial setting shape individuals' cognitive beliefs about the aversive consequences of failing in this specific context. By comparing our results with the dimensions of fear of failure in the psychology literature (e.g., Birney et al., 1969; Conroy, 2001), we conclude that an appropriate version of fear of failure *in entrepreneurship* has to include two dimensions (i.e., potential of the idea and venture's ability to execute), which are needed to account for the specific features of the context. This results in a more robust conceptualization of fear of failure. That is, when fear of failure is used to explain entrepreneurial motivation, it is now capable of accounting for sources such as potential of the idea and venture's ability to execute. Thus, while we contribute to the theory of fear of failure by enhancing its contextual sensitivity, we also provide a contribution of theory by increasing its value as research tool (Whetten, 2009).

3.6.3 Limitations of the Study

Although this study contributes to a deeper understanding of fear of failure as experienced by entrepreneurs, its research design is not without limitations. For the majority of the participants the fear of failure experiences happened a few months or years ago. Like in any retrospective research, this might result in recall bias and distortion of the self-reported accounts (Podsakoff & Organ, 1986). However, it is

possible that some information recalled after long periods maintains a high degree of accuracy (Berney & Blane, 1997). This is especially true for information related to critical experiences for which the subject retains a good recall (Chell, 2004: 47). While the body's response commonly associated to fear and anxiety (e.g., muscle tension, racing heartbeat, fast breathing) may not be there since the fear of failure was triggered, the cognitive recall of that experience should not have temporal constraints. This recall consists of a reflection of an on-going individuals' sense making regarding the effects of fear of failure on the on-going process of entrepreneurship (Gregoire, Corbett, & McMullen, 2011). We hope that, regardless of how long ago those fear arousing events happened, our data shows the manifestation and transformation of the fear of failure phenomenon within the entrepreneurial process.

3.6.4 Future Research

Having outlined the characteristics of fear of failure within the entrepreneurial setting, what remains is to consider points of contact with the broader entrepreneurial literature and potential directions for research. We discuss a number of these broad research areas. First, when examining entrepreneurial motivation, two important aspects associated with entrepreneurial opportunities can be considered. First, although entrepreneurship is recognized as a purposive behavior (Morris et al., 2012), some individuals engage in entrepreneurial action because of a perceived lack of alternatives, while others may do so as a positive choice from a variety of alternative occupations. The effects of fear of failure on individuals who perceive their options to be constrained are likely to be different from the impact on those who perceive themselves to have alternatives (Atkinson, 1957; Birney et al., 1969). Second, entrepreneurial opportunities and incentives are subject to change and evolution, while constraints and commitments

may also increase significantly with the passage of time. We have suggested that the influence of fear of failure in entrepreneurship is likely to also change over time. Fear may initially inhibit entrepreneurial behavior. However, in later stages, it might motivate greater rather than lesser effort. As also shown in our data, there is a mix of both approach and avoidance motivation in the process of venture emergence and growth (cf. Locke & Baum, 2007, p. 93).

Second, this research is not unrelated to the literature on the role of personality in entrepreneurship. Our framework is consistent with the concept of fear of failure as a temporary affective state. However, it is important to clarify the role that dispositions may assume in the fear of failure experience. Affective events theory offers the opportunity to reconcile dispositional approaches and within-person paradigms (Weiss & Beal 2005). It has been demonstrated that dispositional levels of affect predict the strength of within-person relations between momentary affect and momentary attitudes (Judge & Ilies 2004; Beal, Trougakos, Weiss, & Green 2006). Consistent with this approach, we suggest that the tendency to experience negative emotions (e.g., anxiety proneness) and the dispositional avoidance tendency (e.g., neuroticism) can increase individuals' probability of repeatedly appraising external events as threats and their preference for inaction over action. Stable dispositions can be opposed to the temporal dynamics produced by the unstable entrepreneurial environment, affecting the variation of the relationships among the components of the fear of failure experience. We propose that future research should explore this mechanism. Questions to be addressed include how fear of failure varies over time within individuals, how fear of failure varies across individuals and what the personal and situational correlates of that variation may be.

Third, future research also needs to address the specific operationalization of fear of failure and its subcomponents. Substantial differences exist between existing measures of fear of failure and the conceptualization we propose. We need to capture the affective

and the cognitive components of the fear of failure experience to understand their impact on behavior, while controlling for the entrepreneur's levels of commitment to the venture and learning experience. While the affective reaction can be measured with existing scales of positive and negative emotions in the work context such as the Job-Related Affective Well-Being Scale (Van Katwyk, Fox, Spector, & Kelloway, 2000), the cognitive component requires a new empirical effort. Although conceptually similar to Conroy's Performance Failure Appraisal Inventory (PFAI), the cognitive beliefs about the aversive consequences of failure in entrepreneurship are strongly influenced by the context. The development of a new measure of the sources of entrepreneurial fear of failure therefore seems warranted.

Finally, the behavioral consequences of fear of failure also provide opportunities for novel research in our domain. Empirical evidence suggests that motivation, inhibition and repression can affect entrepreneurial performance and wellbeing. However, these relationships have yet to be clearly identified and explained. Although the association between fear of failure and wellbeing has been discussed in psychology, little research has focused on the choice to repress fear within the entrepreneurial process and its consequences. The fear of failure or the fear of being seen as a failure leads people to hide their feeling to preserve the illusion of the entrepreneurial dream. Unfortunately, their inability to look for help and show their weaknesses when repeatedly experiencing fear of failure might be the first cause of depression and physical illness for entrepreneurs. We encourage researchers to carry out empirical studies on this specific aspect of fear, in order to protect the shining side of being an entrepreneur.

3.7 Conclusion

Our conceptual model of the fear of failure experience offers an exploratory attempt to differentiate the elements of the construct. By relying upon extant theoretical perspectives and relevant evidence, we have attempted to both organize the reflexively reported personal data from our research participants, and to offer some propositions on the expected relationships among the variables identified. It remains for the model to be subjected to further empirical examination. In order to do so, it is likely that new measures will need to be developed and validated. The scope of our propositions is broad. However, we hope that the impact on enhancing our understanding of fear of failure in entrepreneurship will justify increased research attention in future.

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3.9 Appendix

3.9.1 - A. Sampling and Data Collection

1. Identified 35 active entrepreneurs or nascent entrepreneurs from the UK for study one (14 had acted upon an entrepreneurial idea; 21 respondents had ceased initial entrepreneurial activities)
2. Utilized semi-structured interviews, asking questions such as: When you first acted upon your idea and made it into a reality, did you experience any anxiety? What entrepreneurial activities proved to be a source of anxiety for you and your project? Describe when and how this anxiety related to your entrepreneurial behavior? How have your experiences of anxiety helped your entrepreneurial activity? How have your experience of anxiety hindered your entrepreneurial activity?
3. Each interview was recorded and transcribed
4. Identified 30 entrepreneurs from Canada with experience starting a business
5. Utilized semi-structured interviews, asking the same questions as in study 1. Additional clarifying questions were also included for added depth such as: how strong was the anxiety (i.e. when a positive response was given)? Why do you say that? And so forth.
6. Each interview was recorded and transcribed

3.9.2 - B. Theme Identification and Coding (UK data)

1. Transcripts were thoroughly read by two of the authors and statements that related to fear of failure were identified and retained
2. The relevance of the statements was then agreed upon by two of the authors and disagreements were resolved through discussion (72 quotas were retained).
3. Each statement was labeled as reflecting a specific theme by two of the authors (working independently)
4. These themes were then discussed by two of the authors and disagreements resolved
5. Codes were then assigned to each chunk of text using these preliminary themes
6. When basic themes occurred frequently, second-level (organizing) themes were identified
7. The second-level (organizing) themes were grouped into global themes

3.9.3 - C. Validation, Refinement and Ontological Organization (Canada data)

1. Transcripts were thoroughly read by three of the authors and statements that related to the fear of failure were identified and retained
2. This data was then compiled into an initial list 379 relevant statements
3. These statements were coded by three of the authors according to the preliminary thematic categories from the UK data
4. A reliability index was calculated at this stage (for the Canada Study)
5. The codes for each statement were then discussed and reconciled by three of the authors

6. Existing categories were refined when needed
7. Adjacent statements in transcripts that repeated the same basic meaning were combined
8. New categories were suggested when statements could not be put in an existing category
9. Statements that were insufficiently clear and where agreement was not possible were deleted.
10. Once agreement was reached about a set of thematic categories, statements were re-coded
11. In the final analysis, 316 statements were retained

CHAPTER 4

4. ENTREPRENEURIAL FEAR OF FAILURE: SCALE DEVELOPMENT AND VALIDATION

4.1 Abstract

An examination of the existing entrepreneurship literature shows serious conceptual and operational limitations in studying the fear of failure phenomenon within the entrepreneurial process. These limitations hinder understanding of the complexities of the fear of failure phenomenon in entrepreneurship and its behavioral implications. Four studies were conducted to develop a psychometrically sound, multidimensional measure of entrepreneurial fear of failure. In Study 1, an initial list of items was developed and content validity was established. In Study 2, exploratory factor analysis was conducted to reduce the number of items. Study 3 aimed to confirm dimensionality through confirmatory factor analysis and establish construct validity (convergent and discriminant) for the instrument developed in Study 1 and 2, using an independent sample. Study 4 replicated the factor structure of the newly developed measure and provided additional construct validity evidence by testing criterion-related validity. The findings are discussed in terms of the importance of having a valid multidimensional measure of entrepreneurial fear of failure to assess the impact of this phenomenon on entrepreneurship.

4.2 Introduction

The dominant view within the entrepreneurship literature is that fear of failure primarily inhibits entrepreneurial action (e.g., Arenius & Minniti, 2005; Autio & Pathak, 2010; ; Brixy, Stenberg, & Stuber, 2012; Hessels, Grilo, Thurik, & van der

Zwan, 2011; Langowitz & Minniti, 2007; Li, 2011; Minniti & Nardone, 2007; Morales-Gualdron & Roig, 2005; Vaillant & Lafuente, 2007; Wagner, 2007; Welp, Spörrle, Grichnik, Michl, & Audretsch, 2012). Psychological theory suggests that this prevalent view is flawed and that individuals may also avoid failure by working harder (Atkinson 1957; Birney, Burdick & Teevan, 1969; Elliot, 1999; Elliot & Church, 1997). Fear of failure can motivate increased engagement in a task as well as withdrawal from it (Atkinson 1957; Elliot, 1999; Elliot & Church, 1999). However, the degree to which people are motivated by fear of failure influences the quality of engagement, goal choice, persistence, and the response to setbacks and negative performance feedback (Atkinson, 1957; Dweck and Leggett, 1988; Elliott, 1997; Martin and Marsh, 2003). This might be especially relevant to entrepreneurship, where failure is a common experience, and reactions to it impact future success and wellbeing (e.g., Shepherd, 2003; 2009; Shepherd, Wiklund & Haynie, 2009; Ucbasaran, Shepherd, Lockett, & Lyon, 2013).

Building on psychological research, it is not surprising that fear of failure cannot be simply considered a barrier to entrepreneurship. If fear of failure influences entrepreneurial behaviors in ways described within the psychology literature, it may motivate the selection of easier goals, or result in earlier withdrawal following a failure experience. Fear of failure could inhibit investment in essential activities, or it might lead to too much focus on one particularly salient task at the expense of other important activities. On the other hand, fear of failure might also lead to greater persistence (Mitchell, 1996) and escalation of commitment. The experience of fear of failure may stimulate positive affect in the form of excitement, the thrill of the chase, as well as negative affect in the form of anxiety, nervousness, and fearfulness (Carver & Scheier, 1998). Therefore, we can expect negative as well as positive outcomes associated with

the experience of fear of failure in the entrepreneurial process. An examination of such possibilities demands a clear understanding of the construct of fear of failure in entrepreneurship to facilitate the investigation of its effect on entrepreneurial outcomes.

Although there is a growing interest in the effects of fear of failure on entrepreneurial behavior (e.g. Mitchell & Shepherd, 2010; Wood, McKelvie, & Haynie, 2014), questions remain regarding the adequacy of measures to fully capture the complexity and potentially nuanced behavioural implications of the construct. Over the years, the assessment of the fear of failure construct has been subject to the diversity of its conceptual definitions. From its association with risk aversion (e.g., Arenius & Minniti, 2005; Langowitz & Minniti, 2007) to descriptions of fear of failure as discrete negative emotion (e.g., Li, 2011; Welpe et al., 2012), to its identification as multidimensional construct (e.g. Mitchell & Shepherd, 2010; Wood, McKelvie, & Haynie, 2014). This diversity resulted in the use of multiple measures that rely on contrasting theoretical perspectives and have dubious psychometric properties. For example, one of the most common measures employed to assess fear of failure attitudes of nascent, emergent, and experienced entrepreneurs is a single item that adopts a unidimensional structure. Moreover, this question itself assumes the unidirectional relationship between fear of failure and entrepreneurial behaviour (“would fear of failure prevent you from starting a business?”). It takes for granted that if fear of failure is present, it will always have an inhibitory effect. While this has been informative to this point in our development of theory, its limits are now evident (cf. Elliot, 1999). Therefore, the purpose of this research is to develop a psychometrically sound measure of fear of failure that is consistent with the phenomenon as it is experienced in entrepreneurship. A new measure suited to the entrepreneurial context is necessary to advance research on entrepreneurial fear of failure and provide a unified perspective on this phenomenon.

This study makes three important contributions. First, we propose a valid and reliable measure of fear of failure in entrepreneurship, following an established framework to guide the development of a psychometrically sound instrument (Hinkin, 1998). Second, we distinguish conceptually and operationally a measure of entrepreneurial fear of failure from theoretically similar constructs used in existing entrepreneurship research. Third, we provide evidence for the dimensionality of our measure and discuss the implications for studying fear of failure in entrepreneurship. We believe that developing and validating this new measure will advance entrepreneurship research and practice by providing a tool that reflects the complexities of the fear of failure phenomenon in entrepreneurship and allows to assess its multidirectional impact on entrepreneurial behavior and outcomes.

4.3 Understanding Fear of Failure

The notion that fear of failure can lead to approach as well as avoidance behavior has become a core assumption within psychology theory. Early understanding of fear of failure developed from achievement motivation research which defined it as the motive disposition to avoid failure (Atkinson, 1966). Motives are the learned association between an external cue and “a change in an affective situation” (McClelland, Atkinson, Clark, & Lowell, 1953: 28). They connect cognitive representations of environmental cues with learned affective responses in ways that the cues are sufficient to arouse the (anticipatory) affective state and influence respondent behavior (McClelland, 1953; 1958). The motive to avoid failure was originally conceptualized as an opposing construct to the motive to seek success (Murray, 1938). Both motives were seen as equally important determinants of achievement behavior (McClelland et al., 1953; Atkinson, 1957). They direct action away from the likelihood of failure or towards the

possibility of success (Elliot, 1997).

Building upon the assumption of motive-arousing cues, classic achievement motivation theorists dedicated substantial attention to the study of a direct relationship between motive dispositions and behavior (e.g. Atkinson, 1957; McClelland, 1980). Unfortunately, their empirical investigations have generated a set of inconsistent and paradoxical findings. The motive to avoid failure and its hypothesized behavioral response are the most representative examples of such paradoxical motive-behaviour relationship: the motivation to avoid negative outcomes, which is supposed to direct behaviour towards avoidance of action, can also lead to approach behaviors (Birney et al., 1969; Elliot, 1997). The search for an explanation of these results led to examination of the mediating role of various social-cognitive constructs, such as goals and regulatory strategies (e.g. Elliot & Church, 1997; Schultheiss, 2001). Consequently, more refined conceptualizations of achievement motivation have evolved such as attribution theory (Weiner & Kukla, 1970), and achievement goal theory (Dweck, 1976) and found specific application, such as in test anxiety (Mandler & Sarason, 1952; Spielberger, 1972) and the self-worth perspective (Covington & Beery, 1976) in educational settings. Despite some differences, this literature exhibits two common themes: fear of failure is found to be associated with both approach and avoidance behaviors; and fear- and hope-based motives are no longer described as opposing poles on a single continuum.

Under threat of failure, people motivated by fear select a strategy that reduces its probability: either striving for success or abandoning the situation. Accordingly, desire to avoid loss does not necessitate avoidance behavior (Elliott & Dweck, 1988; Martin & Marsh, 2003). However, those who react to fear of failure by working harder are most likely to expose themselves to high levels of anxiety, emotional fatigue, and burnout

while performing. This results in negative impact on individuals' psychological wellbeing (De Castella, Byrne, & Covington, 2013). Similarly, experiencing fear of failure while achieving a personal goal can lead people to persistently focus on future negative outcomes, with negative consequences for their positive and negative affectivity and life satisfaction (e.g. Berger & Freund, 2012; Cook & Halvari, 1999; Covington & Omelich, 1988; Elliot, Sheldon, and Church, 1997). This is extremely relevant to entrepreneurship, where the complexity and uncertainty of the environment require people to perform different roles at the same time and constantly expose them to the risk of failure (Baron, Franklin, & Hmieleski, 2013; Patzelt & Shepherd, 2011).

The second point of consensus across achievement theoretic perspectives is that the achievement motives are not two opposite ends of a single continuum, with individuals differing only in relative amounts of fear and hope (Feather, 1961; 1963; Litwin, 1966; Moulton, 1965). Motives interact in ways that lead to different motivational profiles (Covington, 1992; Elliot & McGregor, 2001; Elliot & Church, 1997; Martin & Marsh, 2003). Individuals high in fear of failure who also have a success orientation ('hope for success') can reach impressive achievements: the combination of hope and fear drives their accomplishments (Covington, 1992).

Within the achievement motivation literature several measurement instruments have been adopted to measure fear of failure, including the Thematic Apperception Test (TAT) (e.g. Murray, 1938; McClelland et al., 1953) and self-reported measures of trait test anxiety (e.g. Atkinson & Litwin, 1960; Feather, 1965). Because the TAT was created to directly measure need for achievement, it gives only indirect and unreliable scores of fear of failure (Conroy, 2001). The trait test anxiety scale was explicitly employed to measure the tendency to avoid failure in testing situations. Researchers using this measure argue that fear of failure and the test anxiety construct share the same affective-motivational structure oriented towards avoiding demonstration of

incompetence in evaluative situations (Bedell & Marlowe, 1995; Birney et al., 1969; Elliot, 1997; Conroy & Elliot, 2004; Hagtvet & Benson, 1997; Heckhausen, 1975; Herman, 1990; Spielberger, 1972). Both instruments adopt a unidimensional view of fear of failure. This methodological limitation reflects a conceptual shortcoming of the achievement motivation literature, despite some calls to conceptualize fear of failure multidimensionally (Birney et al., 1969). As a result of the failure of the dispositional achievement motivation approach to accurately predict and explain the direct effect of motives on behavior in achievement contexts, scholars have looked for alternative, dynamic perspectives.

More recently, Conroy (2001) built on the appraisal theory of emotions (Lazarus, 1991) to identify the different dimensions of fear of failure. He defined the concept of fear of failure as the appraisal of threats in evaluative situations with the potential for failure. These situations activate cognitive beliefs and affective states about the aversive consequences of failing, triggering different behavioral mechanisms (Conroy, 2001). This definition provided a platform from which a multidimensional model of fear of failure has been developed to assess the multifaceted nature of this phenomenon. The model asserts that the experience of fear of failure starts with the appraisal of threats to one's ability to accomplish a personally meaningful goal. However, it is the presence of cognitive beliefs about the aversive consequences of failing that predisposes the individual to make appraisal of threats and experience the state anxiety that is associated with fear of failure in evaluative situations (Conroy & Elliot, 2004). Therefore, the model is comprised of five cognitive beliefs that might justify a frightened or anxious response: 1) fear of experiencing shame and embarrassment, 2) fear of devaluing one's self-estimate, 3) fear of having an uncertain future, 4) fear of important others losing interest, 5) fear of upsetting important others. Furthermore, the model holds that threat appraisals could be activated not only when there is the potential for failure, but also

when success is absent (e.g. the consequences of not succeeding). This suggests that fear of failure can be experienced by people motivated to avoid failure, as well as those interested in achieving success.

The new definition of fear of failure has worked as conceptual foundation for the development of a multidimensional measure of fear of failure, the Performance Failure Appraisal Inventory (PFAI) (Conroy, Metzler, & Willow, 2002; Conroy, Elliot, & Hofer, 2003a). Notwithstanding its multidimensionality, this new measure of fear of failure shows continuity with early understandings of this construct. By assessing the strength of an individual's cognitive beliefs in each of the five aversive consequences of failing, the new inventory measures the predisposition to experience fear of failure and not its actual experience. If fear of failure refers to an emotional and somatic reaction towards a stimulus apprehended as a threat in achievement contexts (Conroy 2001), then it must be identified as a temporary state and not only as a stable predisposition. While the predisposition is the tendency to experience fear of failure, the state is the actual experience of the phenomenon and refers to the transitory condition elicited in response to intrapersonal factors and environmental features. That state is then associated with psychological and behavioural responses. Thus, temporary arousal remains fundamental in the study of behavioural consequences of fear of failure and a measure of fear of failure should assess it.

Nevertheless, the multidimensional model of fear of failure represents a clear point of departure from early motive-based approaches to this construct. As de-contextualized constructs, motives are not well situated for predicting context-specific processes and outcomes (Elliot, 1997). Conroy and colleagues (2001) have emphasized the role of a specific achievement context (e.g. sports or classroom achievements) in shaping the fear of failure experience and its influence on associated psychological processes and behavioral outcomes. Accordingly, the PFAI was developed for use in

sports settings and tested in education settings to maximize the predictive validity of this instrument (e.g. De Castella et al., 2013). Notwithstanding the extensive use of this measure in sport and education research (e.g. Conroy, Elliot, & Pincus, 2009), it cannot be assumed to translate perfectly to entrepreneurship and be adequate for this context. If the environmental features are relevant in shaping the experience of fear of failure, then we must take into account the unique role that a specific achievement context plays in triggering fear of failure. This observation is very relevant to this study as it emphasizes the need for contextualization when measuring fear of failure within the entrepreneurial setting.

4.4 Measuring Fear of failure in Entrepreneurship

The existing literature on fear of failure in entrepreneurship is characterized by conceptual and operational diversity. This literature uses measures that not only refer to different definitions of the fear of failure construct but also have dubious psychometric properties. Therefore, it is important to illustrate the theoretical and operational limitations associated with these measures. We can, then, develop a list of fundamental assumptions that will guide the scale development and validation process of a new measure of fear of failure in entrepreneurship.

One of the most common measures of fear of failure used in entrepreneurship research is a single item included in the Global Entrepreneurship Monitor (GEM) project, which asks: “would fear of failure prevent you from starting a business?” (Reynolds et al., 2005). Answers to this question are used as a proxy for the attitude toward risk of the individual (Arenius & Minniti, 2005; Brixy et al., 2012; Hessels et al., 2011; Koellinger, Minniti, & Schade, 2013; Langowitz & Minniti, 2007; Minniti & Nardone, 2007; Wagner & Stenberg 2004), assuming that the person who answers yes

to this query is less willing to bear the risk of becoming an entrepreneur than the person who answers no. Because the attitude towards risk has been taken into account as a determinant of entrepreneurship (Ardagna & Lusardi, 2008), this implies that the lower the fear of failure, the more we are likely to observe entrepreneurial activity (Kihlstrom & Laffont, 1979). This way of defining and measuring fear of failure has contributed to the broadly held assumption within the entrepreneurship literature that fear of failure is always and only an inhibitor of entrepreneurial behaviour.

However, there are some conceptual and methodological inconsistencies in the association of fear of failure with attitude towards risk. Theoretical discussions have cast serious doubt on the conclusion that the willingness of a nascent entrepreneur to accept risks is a dominant factor in her or his decision to start an own business (e.g. Cramer, Hartog, Jonker, & Van Praag, 2002; Rauch & Frese, 2000; Rosen & Willen, 2002; Schiller & Crewson, 1997). The idea that there is a relationship between willingness to take higher risks and the choice of entrepreneurship has always been intuitively appealing (e.g. McClelland, 1961). Unfortunately, some scholars have demonstrated that risk attitudes do not seem to play a role in this decision process (e.g. Caliendo, Fossen, & Kritikos, 2009; Cramer et al., 2002). These findings challenge the assumption that fear of failure is detrimental to entrepreneurship because it increases individuals' risk aversion.

Furthermore, beyond entrepreneurship, the psychology literature suggests that there is a non-linear relationship between fear of failure and risk taking behavior. Atkinson (1957) described dispositional fear of failure and need for achievement as opposing determinants of risk-taking behaviour. He argued that, individuals high in fear of failure will prefer very safe tasks or very difficult ones. While success is easily obtainable when people perform very safe tasks, failure is less likely to be attributed to personal incompetence when tasks are very difficult. In contrast, individuals high in

need for achievement will prefer goals of intermediate difficulty, bearing a moderate degree of risk and uncertainty (Atkinson, 1957; McClelland, 1961; McGregor & Elliot, 2005). Further, some studies showed that fear of failure can also stimulate greater striving, since achieving success is often the best strategy to avoid failure (Martin & Marsh, 2003; Birney et al., 1969). This evidence suggests that, under certain conditions, we need to assume a more complex relationship between fear of failure and risk taking than has been adopted in existing entrepreneurship research.

Some operational limitations also raise concerns with the validity of the GEM survey item to assess fear of failure attitudes of nascent, emergent, and experienced entrepreneurs and the rest of the population. First, in contrast with psychological theories, the GEM survey item assumes a unidimensional nature of the fear of failure phenomenon. Second, the item imposes a unidirectional relationship between fear of failure and entrepreneurial behaviour and takes for granted that if fear of failure is present, it will always have an inhibitory effect. Notwithstanding the effort of some entrepreneurship scholars in explaining that the survey question is only meant to capture the extent to which the possibility of failure would discourage entrepreneurial activity (e.g. Hessels et al., 2011), misinterpretations have led to the wrong assumption. Fear of failure is not always detrimental to entrepreneurship; it can also lead to approaching behaviour (Mitchell & Shepherd, 2011; Ray, 1994) and a valid measure of the construct would facilitate the assessment of its dualistic nature (Birney et al., 1969; Martin & Marsh, 2003).

The examination of existing entrepreneurship literature also revealed that some scholars have assessed fear of failure using combined scales of emotions, such as the PANAS scale (Watson & Clark, 1994) or the Bosman and Winden (2002) emotion lists (e.g., Li, 2011; Welpé et al., 2012). These scholars defined fear of failure as discrete

negative emotion that decrease an individual's propensity to start a venture (Li, 2011; Patzelt & Shepherd, 2011; Welp et al., 2012). However, their conceptualization raises two fundamental theoretical observations. First, fear is different from other negative emotions such as irritation, anger, contempt, sadness, shame, and disappointment. Although they share the property of being reactions to harmful or threatening situations, each negative emotion is characterized by a distinct person-environment relationship, each involves specific appraisal mechanisms, antecedent events, behavioural responses, and physiological correlates (Lazarus, 1991). All of these aspects interact in a process from which unique emotional experiences emerge. As such, fear has to be distinguished from other negative emotions and cannot be measured as a blend of negative emotions (Lazarus, 1991).

Second, fear is different from fear of failure. Since emotions always have a definite cause and a clear cognitive content which influences cognition and behaviour (Baron, 2008; Fisher, Maritz, & Lobo, 2013; Forgas & George, 2001), individuals who are afraid are always afraid of something, and that *something* represents the object of affect that guides its impact (Lazarus, 1991). In entrepreneurship, the cause and content of fear of failure are related to the context. Like entrepreneurial passion (Cardon, Wincent, Sing, & Drnovsek, 2009: 512), fear of failure identifies venture-related opportunities, entrepreneurial tasks and actions as affective objects, whose characteristics contribute to shape the fearful experience within the entrepreneurship domain. This suggests the inadequacy of general measures of fear to assess fear of failure (e.g. PANAS-X; see Welp et al., 2012), because a valid measure of the construct should be specific about fear and its affective objects, when assessing the impact on entrepreneurial outcomes.

One of the few other measures of fear of failure that has been applied in entrepreneurship research is the Performance Failure Appraisal Inventory (PFAI) (Conroy et al., 2002; 2003a). This measure has received empirical support within the

psychology literature (Conroy et al., 2009) and it has been also very helpful in furthering understanding of the role of fear of failure in entrepreneurship (e.g., Mitchell & Shepherd, 2010; Wood et al., 2014). However, two concerns still remain with respect to its application within entrepreneurship research. First, as noted earlier, the PFAI was developed for use in sport and education settings and aimed to measure fear of failure in those specific achievement contexts. Although the entrepreneurial setting can be defined as an achievement context that offers the opportunity to succeed and fail, it is substantially different from sport and education settings. Within the entrepreneurial process, tasks have to be performed under uncertainty (McMullen & Shepherd, 2006) and in a highly emotional environment (Baron, 2008). Furthermore, the execution of the task is subject to the evaluations of multiple stakeholders (e.g. investors, peers, customers, mentors, competitors, family and friends) who also use different criteria to evaluate entrepreneurs' performance (Davidsson, 2005). These differences influence the meaning that entrepreneurs attribute to failure and their cognitive beliefs about the aversive consequences of failing. This can be expected to produce substantive differences in the sources of fear of failure across achievement domains. This raises doubt about the ability of the PFAI to tap into the multiple dimensions of fear of failure in entrepreneurship.

Second, the unique features of the entrepreneurial context raise another important issue with the use of the PFAI to measure fear of failure in entrepreneurship. When asking about individuals' fears, the inventory sets the context (failing) by introducing a stem: "When I am failing". This requires the individuals know/believe *or imagine* that they are failing and reflect on this experience in order to answer. While *failing* is probably clear in a sporting context, it is less easy to specify in entrepreneurship. In entrepreneurship research, the concept of failure involves subjective and idiosyncratic judgements as to what constitutes business failure (McGrath, 1999). Failure is often

associated with the catastrophic collapse of a business venture (Ucbasaran et al., 2013). However, it can also include smaller task level failures (Lyon, Lockett, & Ucbasaran, 2014) that fall short of the immediate closure of the enterprise (e.g., developing a new product, attracting investors, making a first sale). Therefore, the term fear of failure should be broadly defined to include the personal experiences of fear with respect to the possibility of 'non-attainment of one's level of aspiration' (Birney et al., 1969: 3) in entrepreneurial activities, which includes either smaller or catastrophic failures. Accordingly, a measure of entrepreneurial fear of failure should examine the presence/absence of these experiences directly rather than asking for reflection on an abstract failing context.

These observations reveal that the entrepreneurship literature has arguably approached the study of fear of failure with the wrong assumptions. Fear of failure cannot be simply defined as risk aversion or discrete negative emotion. In addition, it cannot be measured with unidimensional and unidirectional instruments. Fear of failure is a multidimensional construct, whose nature is strongly influenced by the interaction between the person and the environment. Both the conceptualization and the measurement of the construct must account for the context sensitivity of this phenomenon (Cacciotti & Hayton, 2015). Accordingly, we build on the psychological tradition and recognize fear of failure as a temporary affective experience that emerges from a process of appraisals of external threats (Conroy, 2001). However, we assume that the entrepreneurial context has a fundamental role in influencing the process of appraisal and shaping the cognitive beliefs of entrepreneurs about the aversive consequences of business failure. In so doing, we maintain continuity with the psychological research but develop a measure that taps into the conceptual domain we call entrepreneurial fear of failure.

4.5 Methodological Overview

We conducted four studies to develop and validate an instrument to assess entrepreneurial fear of failure (Hinkin, 1989). In Study 1, we adopted an inductive approach to generate a pool of items and tested their content validity. The purpose of Study 2 was to reduce the number of items and assess their internal consistency and dimensionality. Study 3 aimed to cross-validate the new measure and provide some evidence of construct validity by examining relationships with measures of related constructs (convergent validity) and with measures of constructs that should not be closely related to entrepreneurial fear of failure (discriminant validity). Finally, Study 4 was conducted to further confirm dimensionality and establish the predictive validity of the new measure by examining its relationship with measures of outcomes expected to be associated to entrepreneurial fear of failure.

Consistent findings emerging from heterogeneous samples provide a more general and complete understanding of the phenomenon under study (e.g. Sutton, 1987). Accordingly, we involved entrepreneurs from different countries, different sectors, and with different experience in the scale validation process. Entrepreneurial fear of failure is very relevant to those with an interest in entrepreneurship who have not become entrepreneurs yet, as well as those who are currently involved in the entrepreneurial process. Hence, we also included postgraduate students from universities in UK, United States, Chile, and China, who have expressed a preference for entrepreneurship and attended an entrepreneurship course. Student samples are very common in entrepreneurship research (Liñan & Chen, 2009). Evidence suggests that university graduates between 25 and 34 years of age show the highest propensity toward starting up a firm (Amorós & Bosma 2013 ; Reynolds, Bygrave & Autio, 2004). Furthermore, student samples allow us to observe the fear of failure phenomenon prior to

entrepreneurial activity. This can help us mitigate the risk of bias due to prior entrepreneurial experience (Krueger, Reilly, & Carsrud, 2000). Nevertheless, we do not rely exclusively upon students and for Study 1 and Study 4 we use a representative sample of entrepreneurs as well.

4.5.1 Study 1 - Item Development

Items related to the entrepreneurial fear of failure dimensions were obtained from the content analysis of the 65 semi-structured interviews of active and potential entrepreneurs from previous research (Hayton, Cacciotti, Giazitzoglu, Mitchell, & Ainge, 2013). This process ensured that the item content reflected the specific fear of failure construct as emerging from the entrepreneurship domain. We found seven themes important to the concept of entrepreneurial fear of failure: 1) fear over loss or potential for loss of their livelihood and stored wealth if the business fails; 2) fear over the ability to perform actions or tasks associated with the pursuit of an opportunity or idea, and/or the development of the venture; 3) fear over the ability to generate or attract needed financial capital for the venture; 4) fear over the validity, potential or future market of the core idea on which the venture is based; 5) fear of how others would perceive the entrepreneur should she take a misstep or fail entirely; 6) fear over the venture team or organization's ability to carry out tasks needed for success; 7) fear over opportunity costs associated with dedicating time and resources to venture development.

Participants referred to these seven themes as to be caused by their fear of failing in relation to the business opportunity, entrepreneurial decisions, actions, and tasks undertaken within the entrepreneurial process. This emphasizes the multidimensionality of the entrepreneurial fear of failure concept as well as the reflective nature of its measurement scale (Bagozzi, 2011; Conroy, 2011). While in formative measurement

models the indicators are assumed to cause the latent variable, in reflective measurement models the observed indicators are assumed to be caused by the latent variable. Hence, reflective indicators are interchangeable and leaving out one of them will not result in the alteration of the scale content (Christophersen & Kunradt, 2008).

Based on the content analysis of the interviews, we developed an initial list of 93 items to capture the potential seven dimensions of the construct. The items were written as declarative sentences, followed by response options that indicate the varying degrees of agreement or disagreement with the statement on a 5-point scale. When writing the items, we faced two important issues. First, we considered the temporal aspect of the measure we wanted to develop (Kelly & McGrath, 1988). Building on the theoretical characterization of fear of failure as a temporary state or experience (Cacciotti & Hayton, 2015), we used a format that could make reference to a specific time frame (DeVellis, 2003). Accordingly, we added a stem to each item, that is a declarative statement expressing a limited time perspective ("Over the past few months"). This is consistent with the idea that fear of failure can vary over time and a scale that measures it has to acknowledge this nature of the latent variable (Mayer, 1978).

Second, we imposed a quality standard on the statements. Our goal at this stage was to identify a consistent way through which the central concept of the intended scale could be stated (DeVellis, 2003). When describing the experience of fear of failure, interviewees used expressions such as "I have been afraid", "I have worried", or "I have felt anxious". The psychology literature assumes that fear, anxiety and worry have a common core of shared meaning (e.g., the appraisal of uncertain and existential threats) and can be used with no distinction across individuals and contexts (Barlow, 2000; Lazarus, 1991). However, in order to be confident in our framing, we tested this

assumption⁴ and asked individuals from the general population (n=160) to complete a questionnaire with a short list of selected items, each paired using the following combinations: anxiety/afraid, worry/afraid, and anxiety/worry. The paired sample T test showed that, when adjusting for multiple comparisons, there is no difference between the means of paired items (see Table 4.1). Having confirmed that the word fear, anxiety and worry could be used interchangeably, we opted for "I have been afraid" type of format to be consistent with the focus of the scale. Based upon this test, we can be reasonably confident that responses are not significantly influenced by social desirability, at least in comparison to using 'fear' versus 'anxiety' or 'worry'.

Table 4.1 Study 1: Fear, Anxiety, and Worry Comparison

Paired items	Mean 1	Mean 2
Over the past few months...		
I have been afraid of/felt anxiety about things that are not in my control	2.82	2.99
I have worried about/been afraid of the unknowns	2.90	2.78
I have felt anxiety about/been afraid of losing the trust of people who are important to me	2.18	2.21
I have worried about/been afraid of losing my work life balance	2.44	2.41
I have felt anxiety/worried about other people's expectations of me	2.72	2.72
I have felt anxiety/worried about disappointing the people who are important to me	2.82	2.71
I have worried about/been afraid of not being able to spend enough time with my family and friends	2.64	2.56

Note. N= 160

Finally, we subjected the content of the items to further substantive validation. We asked a group of experts (four co-authors, two scholars, and one practitioner) to review the items and rate on a 7 point scale (1=very low; 7=very high) the degree of each item's relevance to a working conceptual definition of each dimension (Sterba, R. DeVellis, Lewis, Baucom, Jordan, & DeVellis, 2007). We also invited them to comment on individual items as they saw fit and evaluate the items' clarity and conciseness. This

⁴ For this extra test, we employed Amazon Mechanical Turk (MTurk). This is a crowdsourcing internet marketplace where individuals (known as workers) and businesses (known as requesters) can coordinate the use of human intelligence to perform tasks that computers are unable to do. Workers can browse among existing tasks and complete them for a monetary payment set by the requester.

process ensured that only relevant content was included in the scale while irrelevant content was not. Ranking items by scores received resulted in a list of the 49 most relevant items (7 per dimension), which were ready for factor analysis (see Table 4.2). We retained some redundancy from the final item pool as an integral part of internal consistency (DeVellis, 2003).

Table 4.2 Study 1: The Preliminary Entrepreneurial Fear of Failure Scale

Financial Security (FS)

Over the past few months, I have been afraid...

1. ...of investing more money into the business
2. ...of losing all I have invested in the business
3. ...of running out of money
4. ...of leaving myself with no source of income
5. ...that a failure of my business will have financial consequences on my family
6. ...of risking my personal investment in the business
7. ...of losing all my savings

Personal Ability (PA)

Over the past few months, I have been afraid...

8. ...of not being able to pitch the idea effectively
9. ...of not being able to manage the business effectively
10. ...of not being able to fulfil all the roles that this job requires
11. ...of not being able to manage people effectively
12. ...of not having the right skill sets to build the product/service
13. ...about my own ability to make this business successful
14. ...of not knowing what is needed to run a business

Threat to Social Esteem (TSE)

Over the past few months, I have been afraid...

15. ...of losing the trust of people who are important to me
16. ...of not being accepted by all my stakeholders
17. ...of other people's expectations of me
18. ...of others thinking I have no idea of what I am doing
19. ...of losing credibility with actual or potential clients
20. ...of the reputational consequences of not paying people
21. ...of disappointing the people who are important to me

Potential of the Idea (PI)

Over the past few months, I have been afraid...

22. ...that this idea won't be successful
 23. ...that there is no need for our product/service out there
 24. ...that the idea is not good enough for investors
 25. ...that this is not a valuable business idea
 26. ...that no one will be interested in the product/service
 27. ...that this business idea is too difficult to implement
 28. ...that there won't be a market for the product/service
-

Table 4.2 (Continued) Study 1: The Preliminary Entrepreneurial Fear of Failure Scale

Opportunity Costs (OC)

Over the past few months, I have been afraid...

1. ...of losing my work-life balance
2. ...of missing important events of my life because of my business
3. ...of not being able to spend enough time with my family and friends
4. ...of not being able to spend time on other income producing endeavours
5. ...that the money spent on this business could be used elsewhere
6. ...of having to choose between more secure and less secure job opportunities
7. ...that running this business is taking my time away from other activities

Ability to Fund the Venture (F)

Over the past few months, I have been afraid...

8. ...of not getting enough funding to move the company forward
9. ...of not being able to finance the business
10. ...about the financial challenges of starting a new business
11. ...of investors not being interested in the business
12. ...of not making enough money to finance future business growth
13. ...about the financial situation of the business
14. ...of not being able to get the required funding for the business

Venture's Ability to Execute (AE)

Over the past few months, I have been afraid of the organization's ability to...

15. ...execute the business plan
 16. ...exploit this business opportunity
 17. ...overcome technical challenges
 18. ...make enough sales
 19. ...meet client expectations
 20. ...deliver upon promises
 21. ...develop the product/service
-

4.5.2 Study 2- Item Reduction

4.5.2.1 Data Collection and Sample

Our sample for this study included 211 potential and active entrepreneurs. Participants were selected from postgraduate courses in entrepreneurship of a single university in the United Kingdom (132), United States (20), and Chile (59). Surveys were emailed to potential participants. The emailing included a cover letter explaining the purpose of the study, instructions and link for the online survey's completion. In the

instructions, we explicitly asked potential participants to complete the survey only if they were active entrepreneurs, had been thinking about a new entrepreneurial idea but had not started yet, or had been thinking about a venture in the past few months but had chosen not to start (see Appendix A). Meeting these criteria restricted our chance to get a high response rate. Of the 400 students contacted, only 211 completed the survey. Within the sample, the average participant age was 30, 67 % were men and 33% were women, 22% were full time entrepreneurs, and 24% were part time entrepreneurs.

4.5.2.2 Measures

In this study, we used the 49 items generated in Study 1 to measure entrepreneurial fear of failure. Worthington and Whittaker (2006) identified two reasons to avoid the inclusion of additional scales at this stage of measure development. First, the longer the questionnaire, the harder it is to have potential participants to volunteer for the study and guarantee a decent level of attention to complete all the items (Converse & Presser, 1986). Second, items from other measures may interact with items designed for the new instrument, affect participants' responses, and contaminate the scale development process at this stage. Therefore, we avoided influencing item responses by limiting the use of additional scales. Participants were only asked to rate the extent to which they have experienced the fear of failure combined in the different dimensions using a 5-point response format, ranging from 1 (strongly disagree) to 5 (strongly agree).

4.5.2.3 Exploratory Factor Analysis

The initial entrepreneurial fear of failure scale was subjected to exploratory factor analysis (EFA) using principal-component analysis with oblique rotation. Fundamental to EFA is the decision concerning the number of components to retain (Hayton, Allen,

& Scarpello 2004). There is evidence that both under- and over-extraction of factors can be potentially detrimental to scale development and instrumentation (Velicer, Eaton, & Fava, 2000). If too few factors are extracted, there is the risk to exclude useful or theoretically interesting scales. Conversely, if items that should be cluster together are spread across many artificial subscales, then the pattern loadings may appear weak. We relied on parallel analysis which has emerged as one of the most strongly recommended factor retention techniques (Hayton et al., 2004; Ruscio & Roche, 2012).

4.5.2.4 Results

In this study, parallel analysis recommended retaining six factors. Because of the relatively small number of participants (participant-per-item ratio was between 3:1 and 5:1), we checked for item communalities and factorability of the data set to determine the adequacy of sample size (Guadagnoli & Velicer, 1988; MacCallum et al., 1999). The dataset contains communalities higher than .50, and the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy of .89 is above the suggested threshold of .70 (Tabachnik & Fidell, 2001). The Bartlett's test of sphericity rejects the null hypothesis that the correlation matrix is an identity matrix ($p < .05$), providing further evidence for scale factorability (Tabachnik & Fidell, 2001). Accordingly, we proceeded with principal component analysis⁵, imposing an extraction of six factors as suggested by our parallel analysis.

The six-factor solution in the new scale accounted for approximately 54% of the variance in the items. We used a combination of items communalities after rotation (less than .40), low items loadings (less than .32) and cross-loadings on the factors (less than .15 difference from an item's highest factor loading and absolute loadings higher

⁵ We compared results of the principal component analysis with those of the more conservative principal-axis factoring analysis. They provided the same solution.

than .32 on two or more factors) as deletion or retention criteria (Worthington & Whittaker, 2006; Tabachnik & Fidell, 2001). We reduced the scale from 49 to 39 items. To optimize scale length (Converse & Presser, 1986), we deleted further items based on the lowest factor loadings, cross-loadings and low conceptual consistency with other items on the factor, without compromising the internal consistency of the subscales. Furthermore, to ensure that item elimination did not result in changes to factor structure, we reran the exploratory factor analysis (Worthington and Whittaker, 2006). The outcomes confirmed that originally established criteria such as factor solution (6 factor structure), KMO measure of sample adequacy (.827), Bartlett's Test ($p < .05$), and item communalities ($> .50$) were all met.

We retained 21 items that loaded on the six factors which together accounted for 68% of the variance. The items designed to measure concerns over personal financial security and concerns over funding the venture merged into one 6-item factor, which we have subsequently called financial concerns. The second factor (3 items), personal ability, was maintained, suggesting that entrepreneurs' fear of failure is also shaped around the extent to which they believe in their personal competencies of building the venture. The three items loading on factor 3 reflect the notion that fear arises from awareness of opportunity costs incurred in undertaking entrepreneurial actions. Consistent with our content analysis, threat to social esteem (3 items) emerged as one factor. The fifth factor (3 items), potential of the idea, confirmed the expectation that there are some opportunity-oriented sources of fear of failure (McMullen & Shepherd, 2006). The sixth and final factor (3 items) demonstrated that concerns over venture's ability to execute, as opposed to individual ability, represent a source of entrepreneurial fear of failure.

We report in Table 4.3 the means, standard deviations, intercorrelations, and Cronbach's coefficient α for the six factors. The table shows that the factors were

distinct and moderately correlated (average $r = .31$, maximum $r = .43$, moderate and high, respectively, according to J. Cohen & P. Cohen, 1983). Furthermore, scale reliabilities ranged from .72 to .85 (Nunnally, 1978).

Table 4.3 Study 2: Means, Standard Deviations, Correlations, and Coefficient Alphas (on the Diagonal) of EFF Dimensions

EFF Dimension	M	SD	1	2	3	4	5	6
1. Financial concerns	3.29	0.85	.85					
2. Personal ability	2.90	0.88	.25**	.72				
3. Opportunity costs	3.08	0.98	.31**	.18*	.78			
4. Threat to social esteem	2.91	0.97	.43**	.26**	.25**	.79		
5. Potential of the idea	2.79	0.93	.39**	.31**	.21**	.35**	.79	
6. Venture's ability to execute	3.05	0.88	.34**	.41**	.26**	.31**	.42**	.76

Note. $N = 211$. EFF= Entrepreneurial Fear of Failure

**Correlation is significant at the 0.01 level (2-tailed).

*Correlation is significant at the 0.05 level (2-tailed).

4.5.3 Study 3 - Confirmatory Factor Analysis , Convergent and Discriminant Validity

In this study, we addressed two important steps of the measure validation process. Firstly, we conducted a confirmatory factor analysis (CFA) of the entrepreneurial fear of failure items using a new sample to confirm the dimensionality of the entrepreneurial fear of failure scale. We employed the covariance matrix as input and the maximum likelihood estimation to obtain the parameters (Chou & Bentler, 1995). Amos 22 was used to evaluate the fit of the measurement model.

Secondly, we provided some construct validity evidence by assessing convergent and discriminant validity of the entrepreneurial fear of failure scale. Convergent validity evidence involves demonstrating that measures that are theoretically supposed to be highly interrelated are demonstrated to be highly interrelated (Nunnally & Bernstein, 1994). We examined the extent to which the new scale correlates with other measures purported to assess the same or very similar construct (Hinkin, 1998). Hence, we assessed the multidimensional fear of failure model proposed by Conroy (2001; et al.,

2002; 2003a) and used in previous entrepreneurship research of Mitchell and Shepherd (2010; 2011), Mitchell and Shepherd (2010; 2011), Wood et al. (2013; 2014), and Klaukien and Patzelt (2009). We also considered a measure of state anxiety developed and applied in previous psychological research (e.g., Marteau & Bekker, 1992; Spielberger, Gorsuch, Lushene, & Vagg, 1983). This measure focuses on the temporary psychological state of anxiety; an aspect that is consistent with our conceptualization of entrepreneurial fear of failure.

Evidence for convergent validity would be demonstrated if scores on these scales were highly correlated with scores on the entrepreneurial fear of failure scale. We also expected our measure of entrepreneurial fear of failure to have differential relationships with these measures. Specifically, we expect the multidimensional measure of fear of failure to be highly correlated with our entrepreneurial fear of failure scale. Some of the entrepreneurial fear of failure dimensions can be conceptually generalized to Conroy's "fear of having an uncertain future" (*financial security and ability to fund the venture*), "fear of devaluing one's self estimate." (*personal ability*), "fear of shame and embarrassment" (*personal ability*), and "fear of important others losing interest" and "fear of upsetting important others" (*threat to social esteem*). Thus, we expected Conroy measure to relate more highly to these four dimensions of our new scale, providing some evidence of convergent validity, at least for *financial security, ability to fund the venture, personal ability*, and *threat to social esteem* dimensions. Such convergent validity evidence for *opportunity costs, potential of the idea and venture's ability to execute* was much more difficult to assess because no fear of failure model exists that acknowledges the existence of these dimensions.

Discriminant validity evidence involves demonstrating that a construct is distinct from other conceptually related, but distinct constructs (Campbell & Fiske, 1959). We expected that scores on a set of potential antecedent constructs would produce generally

lower relationships with entrepreneurial fear of failure dimensions than would the same or very similar constructs examined earlier. Hence, we examined the distinctiveness of self-efficacy, entrepreneurial self-efficacy, and self-esteem with respect to entrepreneurial fear of failure. These variables represent theoretically dissimilar constructs that are nonetheless related to entrepreneurial fear of failure. For example, self-efficacy influences individuals' thought patterns and emotional reactions (Bandura, 1977). While high self-efficacy creates a feeling of serenity in approaching difficult tasks and activities, low self-efficacy may lead to a belief that things are tougher than they really are and, thus, foster anxiety (Schunk & Pajares, 2007). This might be also the case for entrepreneurial self-efficacy which incorporate personality as well as environmental factors (McGee, Peterson, Mueller, & Sequeira, 2009). The lower the belief in one's own ability to successfully launch an entrepreneurial venture, the higher the probability to experience fear and anxiety over entrepreneurial tasks and activities. Therefore, we expected self-efficacy and entrepreneurial self-efficacy to negatively relate to entrepreneurial fear of failure. We expected these negative relationships to be especially true for one of the entrepreneurial fear of failure dimensions: *personal ability*. However, the correlation will be lower than that observed between two measures of the same construct.

Like self-efficacy, self-esteem was also expected to have a negative relationship with entrepreneurial fear of failure. General self-esteem is a global concept that refers to the self-perceptions that one has about oneself as individual (self-representation) and involves the totality of one's self-knowledge (Marsh & Shavelson, 1985). These self-perceptions form through experiences and are influenced by reinforcements and evaluations by significant other persons (Shavelson & Bolus, 1982). Individuals with low self-esteem possess a tendency for self-protection characterized by unwillingness to accept risks, are focused on avoiding outstandingly bad qualities, and are reluctant to

draw attention to self (Baumeister, Tice, & Hutton, 1989). Therefore, entering evaluative situations with the potential for failure is for them a source of anxiety and depression because of the risk associated with exposing their weaknesses in case of failure (Schlenker, Weigold, & Hallam, 1990; Watson, Suls, & Haig, 2002). In entrepreneurship, where success is partly attributed to individuals' capabilities and entrepreneur's performance is evaluated by multiple stakeholders (e.g. investors, competitors, clients, mentors, family and friends)(McMullen & Shepherd, 2006; Davidsson 2005), low self esteem can facilitate the perception of threats to self and their esteem in the eyes of others (Birney et al., 1969). Accordingly, we expected self-esteem to have a negative relationship with two entrepreneurial fear of failure dimensions: *personal ability* and *threat to social esteem*. While *personal ability* recalls the cognitive component of self-representation about one's own ability, *threat to social esteem* is influenced by the perception of oneself formed from important people's reactions.

In sum, to demonstrate discriminant validity , we expected the entrepreneurial fear of failure scale and its underlying dimensions to be distinct from self-efficacy and self-esteem. While our entrepreneurial fear of failure measure represents a set of cognitive beliefs shaped by the entrepreneurial context, these two personality traits are enduring dispositions not necessarily influenced by the context at hand. We also expected *personal ability* to be distinct from entrepreneurial self-efficacy. Although they share the characteristic of being cognitive beliefs influenced by the entrepreneurial setting, entrepreneurial fear of failure also includes an affective component, which implies the experience of a feeling of fear over the inability to perform entrepreneurial tasks and activities.

4.5.3.1 Data Collection and Sample

Our sample for this study included 146 potential and active entrepreneurs. Participants were selected from postgraduate courses in entrepreneurship of three major universities in United Kingdom. In contacting the potential participants, we followed the same procedure applied in Study 2 (See Appendix A). Of the 300 students contacted, 146 completed the survey. Within the student sample, the average participant age was 25, 60% were men and 40% were women, 18% were full time entrepreneurs, and 28% were part time entrepreneurs.

4.5.3.2 Measures

Entrepreneurial fear of failure. The 21-item entrepreneurial fear of failure measure ($\alpha = .88$) was administered using the same 5-point response format (ranging from 1 strongly disagree to 5 strongly agree) used in Study 2.

Fear of failure. We used two measure of fear of failure to assess entrepreneurial fear of failure convergent validity: Conroy et al. performance failure appraisal inventory (PFAI) (2002; 2003a) and Spielberger state anxiety inventory (1983). We used the previously validated 5-item short version ($\alpha = .65^6$) of the PFAI (Conroy et al., 2003a; Conroy, Elliot, & Hofer, 2003b), measured on a 1 (Do not Believe at all) to 5 (Believe 100% of the time) scale. We also used the 20-item state anxiety inventory ($\alpha = .82$), which was assessed by use of a 4-point scale that ranged from 1 (almost never) to 4 (almost always).

⁶ The PFAI short form has been applied in existing entrepreneurship research where it reported high reliability levels (e.g. $\alpha = .89$, Wood, McKelvie, & Haynie, 2014; $\alpha = .81$, Drover, Wood, & Fassin, 2014; $\alpha = 0.79$, Wood, McKinley, & Engstrom, 2013).

Self-efficacy. This construct was assessed on Chen et al.'s (2004) 8-item measure ($\alpha = .82$) by the use of a 5-point response format, ranging from 1 (strongly disagree) to 5 (strongly agree).

Entrepreneurial self-efficacy. We used a summed scale based on the stages of entrepreneurship provided by Vesper (1996) to measure this construct. Similar to the general self-efficacy scale provided by Chen and Klimoski (2003), the eight items in this entrepreneurial self-efficacy scale ($\alpha = .86$) were measured on a scale anchored by strongly agree (1) and strongly disagree (7).

Self-esteem. we used the 10-item Rosenberg scale (1965) to assess self-esteem. Response options for this measure ranged from 1 (strongly disagree) to 5 (strongly agree). The scale showed good reliability ($\alpha = .83$).

4.5.3.3 Results

4.5.3.3.1 Dimensionality

For interpreting the CFA, we considered several recommended Amos 22 measures of goodness-of-fit, including absolute fit indices such as the ratio of chi-squared to degrees of freedom (X^2/df), the goodness-of-fit index (GFI; Joöreskog & Soörbom, 1993), the root mean square residuals (RMR), and the standardised root mean square residuals (SRMR). We also calculated some relative fit indices such as the Incremental Fit Index (IFI; Bollen, 1990), and the Tucker-Lewis Index (TLI; Tucker & Lewis, 1973) or Non-Normed Fit Index (NNFI). In addition, we examined two centrality-based indices: the root-mean-square error of approximation (RMSEA), and the comparative fit index (CFI; Bentler, 1990). Values less than 5 are indicative of good model fit based on the ratio of chi-square relative to degrees of freedom (Wheaton, Muthen, Alwin, & Summers, 1977). Hu & Bentler (1999) suggested that an appropriate "cutoff" for the

RMR is less than .10 and SRMR should be less than .08. Furthermore, values exceeding .90 are generally accepted to indicate good model fit for the GFI, the NNFI, and CFI (Hatcher, 1994; Hu & Bentler, 1998). Finally, an RMSEA of between .08 to 0.10 provides a mediocre fit and below .08 shows a good fit (MacCallum, Browne, & Sugawara, 1996). However, more recently, a cut-off value close to .06 (Hu and Bentler, 1999) or a stringent upper limit of .07 (Steiger, 2007) seems to be generally accepted. The initial CFA results reported only moderate fit for the six factor model. Our inspection of modification indexes, standardized residuals, and factor loadings showed that 2 items reported comparatively low loadings and 1 item was loading on more than one factor. A justifiable solution to such problem in measurement validation situation is to delete problem indicators (Anderson & Gerbing, 1988). Accordingly, we eliminated low loading and double-loading items and obtained a 18-item six factor model, which showed a better fit ($\chi^2/df = 2.03$, $p < .01$; GFI = .85; RMR = .09; SRMR = .07; IFI = .89; TLI = .85; RMSEA = .08; and CFI = .88).

Notwithstanding the model fit improvement, this factor solution raised was not operationally and theoretically satisfying. First, some fit indices (GFI, IFI, TLI, and CFI) resulted below the conventional cutoff of values larger of .90. Second, the elimination of problem items resulted in losing all the items that tapped into the entrepreneurial fear of failure dimension we called Venture's ability to execute. However, six conceptually defined dimensions can be still identified in the six factor model. Contrary to what we found in Study 2, financial security items and ability to fund the venture items did not merge into a single factor. Their corresponding items loaded on two distinct dimensions, as emerged in Study 1. These differences might be attributed to the nature of the samples. As in Study 2, the present study used a sample of students interested in entrepreneurship, with a small percentage of active entrepreneurs

(full time entrepreneurs= 18%; part time entrepreneurs= 28%). Because venture's ability to execute items identify fears that become more relevant at later stages of the entrepreneurial process (e.g. fear of not delivering upon promises), they might not be consistently experienced by potential entrepreneurs or entrepreneurs at early stages of their venture creation. Similarly, in Study 2, people might not have easily distinguished the financial concerns related to their personal financial stability (financial security) from those related to the financial viability of their venture (ability to fund the venture). This resulted in modification of the factor structure.

Based on these observations, we decided to further examine the goodness-of-fit of the six factor model by contrasting it with two alternative CFA models. First, we collapsed the six dimensions to represent a single construct (Model B) to further assess the factor independence of our six factor model (Model A). Second, we examined a seven factor model (Model C) including the three eliminated items, to compare the new factor solution with the one obtained in Study 1. We wanted to check whether constraining the model to 6 factors resulted in losing a significant dimension of entrepreneurial fear of failure, which would have conversely found its place in a seven factor model. Goodness-of-fit statistics for the three models are reported in Table 4.4. The results show that Model B resulted in poor fit indices ($\chi^2/df = 4.04$, $p < 0.01$; GFI= .64; RMR= .16; SRMR= .11; IFI= .54; TLI= .48; RMSEA= .14; and CFI= .53). This illustrates that the entrepreneurial fear of failure items are certainly measuring a multidimensional construct as opposed to a unidimensional construct. Surprisingly, Model C showed a general better fit than Model A ($\chi^2/df = 1.74$, $p < 0.01$; GFI= .84; RMR= .09; SRMR= .06; IFI= .90; TLI= .87; RMSEA= .07; and CFI= .90). These results suggest that a seven factor model which retains the venture's ability to execute dimension is not only statistically supported, but also a more conceptually adequate

solution to subject to validation at this stage of the process. Therefore, we adopted a more comprehensive approach and chose to retain the seven factor model for subsequent analysis.

Table 4.4 Study 3: Comparison among CFA Models

Model	χ^2/df	GFI	RMR	SRMR	IFI	TLI	RMSEA	CFI
Model A	2.03**	.85	.09	.07	.89	.85	.08	.88
Model B	4.04**	.64	.16	.11	.54	.48	.14	.53
Model C	1.74**	.84	.09	.06	.90	.87	.07	.90

Note. N= 146

** p< .01

Items and their loadings, means, and standard deviations for the seven factor model are reported in Table 4.5. We examined an index of internal consistency reliability by calculating coefficient alphas for each factor. We found good levels of reliability for each dimension: financial security (.72), ability to fund the venture (.86), personal ability (.76), opportunity costs (.73), threat to social esteem (.75), potential of the idea (.83), and venture's ability to execute (.73). Correlations among the seven dimensions of entrepreneurial fear of failure in the Study 3 data set are reported in Table 4.6. Findings show that the factors were moderately correlated (average $r = .36$, maximum $r = .48$) (according to J. Cohen & P. Cohen, 1983), and those correlations were positive indicating that these seven dimensions work together to capture general entrepreneurial fear of failure.

Table 4.5 Studies 3: Item Means, Standard Deviations, Loadings, and Reliabilities of the EFF Scale

Item	F	OC	POI	TSE	FS	PA	AE	M	SD
36...of not getting enough funding to move the company forward	.85	-	-	-	-	-	-	3.22	1.11
42...of not being able to get the required funding for the business	.84	-	-	-	-	-	-	3.23	1.11
37...of not being able to finance the business	.78	-	-	-	-	-	-	3.27	1.12
31...of not being able to spend enough time with my family and friends	-	.83	-	-	-	-	-	2.92	1.25
35...that running this business is taking my time away from other activities	-	.77	-	-	-	-	-	3.08	1.24
30...of missing important events of my life because of my business	-	.68	-	-	-	-	-	2.61	1.29
25...that this is not a valuable business idea	-	-	.90	-	-	-	-	2.91	1.18
23...that there is no need for our product/service out there	-	-	.86	-	-	-	-	2.88	1.16
26...that no one will be interested in the product/service	-	-	.78	-	-	-	-	2.92	1.21
17...of other people's expectations of me	-	-	-	.80	-	-	-	2.92	1.14
21...of disappointing the people who are important to me	-	-	-	.80	-	-	-	2.84	1.18
15...of losing the trust of people who are important to me	-	-	-	.65	-	-	-	2.54	1.18
7...of losing all my savings	-	-	-	-	-.80	-	-	2.64	1.29
3...of running out of money	-	-	-	-	-.71	-	-	3.13	1.29
2...of losing all I have invested in the business	-	-	-	-	-.66	-	-	2.97	1.18
11...of not being able to manage people effectively	-	-	-	-	-	.84	-	2.79	1.14
10...of not being able to fulfil all the roles that this job requires	-	-	-	-	-	.75	-	3.01	1.12
9...of not being able to manage the business effectively	-	-	-	-	-	.67	-	3.03	1.15
45...overcome technical challenges	-	-	-	-	-	-	.77	3.07	1.19
47...meet client expectations	-	-	-	-	-	-	.75	2.99	1.01
48...deliver upon promises	-	-	-	-	-	-	.71	3.01	1.05
α	.86	.73	.83	.75	.72	.76	.73		

Note. EFF= Entrepreneurial fear of failure; F= Ability to fund the venture; OC= Opportunity costs; POI= Potential of the idea; TSE= Threat to social esteem; FS= Financial security; PA= Personal ability; AE= Venture's ability to execute. N= 146. All items loaded significantly on their respective factors ($p < .001$).

Table 4.6 Study 3: Correlations among Entrepreneurial Fear of Failure Dimensions

EFF Dimension	1	2	3	4	5	6	7
1.Ability to fund the venture	-						
2. Opportunity costs	.29**	-					
3. Potential of the idea	.28**	.31**	-				
4.Threat to social esteem	.33**	.28**	.30**	-			
5. Financial security	.47**	.42**	.39**	.34**	-		
6.Personal ability	.48**	.21**	.29**	.35**	.40**	-	
7.Venture's ability to execute	.42**	.12	.37**	.39**	.24**	.39**	-

Note. N= 146.

** p < .01.

4.5.3.3.2 Convergent and Discriminant Validity

Based on the seven factor model, we assessed within the measure (between factors) and between measures (through comparisons with other, distinct measures) convergent and discriminant validity of the entrepreneurial fear of failure measure. Our goal was to show that our operationalization of the construct is related to theoretically relevant constructs (convergent validity) but is distinct from other constructs (discriminant validity).

Convergent validity within the measure is established when all the items load more strongly on their associated factors (loading > .65; see table 4.5), and when each of the items loads more strongly on their associated factors than on any other factors (Chau & Tam, 1997). We also calculated the average variance extracted (AVE) and the composite reliability index for each factor of the entrepreneurial fear of failure scale. AVE is a measure of the amount of variance that is captured by the construct in relation to the amount of variance due to measurement error. AVE values higher or equal to .50 demonstrate convergent validity (Bagozzi, 1981; Fornell & Larcker, 1981). On the contrary, the composite reliability index (CRI) is a measure of the overall reliability of a collection of heterogeneous but similar items. According to Bagozzi (1980; see also

Bagozzi, 1981), the cut off value for CRI is .70. As shown in table 4.7, entrepreneurial fear of failure dimensions show a satisfactory level of validity and reliability.

Table 4.7 Study 3: Average Variance Extracted and Composite Reliability Index of the Entrepreneurial Fear of Failure Dimensions

EFF Dimensions	AVE	CRI
Ability to fund the venture	.68	.86
Opportunity costs	.58	.80
Potential of idea	.72	.88
Threat to social esteem	.57	.80
Financial security	.53	.77
Personal ability	.57	.80
Venture's ability to execute	.55	.79

Note. N=146

EFF= Entrepreneurial fear of failure; AVE= average variance extracted; CRI= Composite reliability index. AVE values higher or equal to .50 demonstrate convergent validity. CRI values higher or equal to .70 demonstrate construct reliability.

With respect to convergent validity between measures, we examined the correlations between our measure of entrepreneurial fear of failure and measures of similar constructs. We calculated a composite measure of entrepreneurial fear of failure by unit weighting (Nunnally, 1978). As predicted, we found our measure to be more closely related to the multidimensional measure of fear of failure (PFAI) ($r = .43$; $p < .01$) than it was to the state anxiety measure ($r = .26$; $p < .01$). We also examined the correlations between the PFAI and each sub-dimension of entrepreneurial fear of failure. Convergent validity relationships partially followed our predictions about differential relationships among dimensions. Scores measuring general fear of failure were more closely related to threat to social esteem ($r = .48$; $p < .01$), financial security ($r = .31$; $p < .01$), personal ability ($r = .30$; $p < .01$), and ability to fund the venture ($r = .27$; $p < .01$) than they were to potential of the idea ($r = .22$; $p < .01$), and opportunity costs ($r = .14$). Contrary to our expectations, the PFAI was moderately related to venture's ability to fund the venture ($r = .30$; $p < .01$). While these positive correlations provided

further convergent validity evidence for the entrepreneurial fear of failure dimensions, some of them were not very high (e.g. potential of the idea, ability to fund the venture) and/or nonsignificant (e.g. opportunity costs). These findings highlight the uniqueness of some entrepreneurial fear of failure dimensions that we have argued to be specific to the entrepreneurship domain (e.g. opportunity costs and potential of the idea). Correlations summarizing convergent and discriminant validity relationships are reported in Table 4.8.

Table 4.8 Study 3: Correlations among EFF and Measures of Theoretically Similar Constructs and Dissimilar Constructs

EFF Dimensions	Theoretically Similar Constructs		Distinct Constructs		
	PFAI	SA	GSE	SE	ESE
Ability to fund the venture	.27**	.25*	-.02	-.16*	-.20*
Opportunity costs	.14	.20*	-.10	-.14	-.16
Potential of idea	.22**	.13	-.29**	-.30**	-.26**
Threat to social esteem	.48**	.17*	-.10	-.31**	-.32**
Financial security	.31**	.19*	-.19*	-.25**	-.31**
Personal ability	.30**	.19*	-.16	-.27**	-.27**
Venture's ability to execute	.30**	.20*	-.06	-.21*	-.20**
General entrepreneurial fear of failure	.43**	.26**	-.20*	-.36**	-.37**

Note. EFF= Entrepreneurial fear of failure; FF = Performance failure appraisal inventory (Conroy et al., 2002; 2003); SA= State anxiety (Spielberger, 1983); GSE= General self-efficacy (Chen et al., 2004); ESE= Entrepreneurial self-efficacy (Vesper, 1996).

N= 146. * p< .05; ** p< .05.

To establish discriminant validity within the measure, we also used the average variance extracted (AVE) analysis. This analysis consists in comparing the square root of every AVE value belonging to each latent construct to any correlation among any pair of latent constructs. According to Fornell and Larcker (1981), discriminant validity exists if AVE is higher than the shared variance between factors. Thus, we compared the square root of the AVE to the correlations among dimensions. We reported our results in Table 4.9, where the diagonal elements correspond the square root of the AVE, whereas the off-diagonal elements correspond the correlations among

dimensions. Our results shows that the diagonal elements are larger than any other corresponding row or column entry (Staples, Hulland, & Higgins, 1999), demonstrating between factors discriminant validity.

Table 4.9 Study 3: AVE and Correlations among Entrepreneurial Fear of Failure Dimensions

EFF Dimension	1	2	3	4	5	6	7
1.Ability to fund the venture	.82						
2. Opportunity costs	.29	.76					
3. Potential of the idea	.28	.31	.85				
4.Threat to social esteem	.33	.28	.30	.75			
5. Financial security	.47	.42	.39	.34	.73		
6.Personal ability	.48	.21	.29	.35	.40	.75	
7.Venture's ability to execute	.42	.12	.37	.39	.24	.39	.74

Note. N= 146.

AVE= Average variance extracted. EFF= Entrepreneurial fear of failure.

The bold diagonal elements are the square root of the variance shared between the dimensions and their measures (i.e., the average variance extracted). Off-diagonal elements are the correlations between the dimensions. Within measure discriminant validity is demonstrated if the diagonal elements are larger than any corresponding row or column entry.

With respect to discriminant validity between measures, we examined the correlations between entrepreneurial fear of failure dimensions and three distinct but conceptually related constructs: general self-efficacy, entrepreneurial self-efficacy, and self-esteem. As Table 4.8 shows, the correlations were generally lower than those between entrepreneurial fear of failure dimensions and theoretically similar constructs, some nonsignificant (33%), and all of them were in the predicted direction (negative). Also as predicted, entrepreneurial self-efficacy measure reported a weak and negative association with personal ability ($r = -.16$). Although correlations between general self efficacy and personal ability ($r = -.27$; $p < .01$), between self-esteem and personal ability ($r = -.27$; $p < .01$), and between self-esteem and threat to social esteem ($r = -.32$; $p < .01$) were moderate, they were lower than those between the PFAI and these entrepreneurial fear of failure dimensions ($r = .30$, $p < .01$ for personal ability; $r = .48$, $p < .01$ for threat to

social esteem). These findings provide strong support for the conclusion that these measures of the dimensions of entrepreneurial fear of failure are empirically distinct from existing constructs.

4.5.4 Study 4- Replication and Criterion-related Validity

The goal of this Study was to conduct a replication with an independent sample of participants. This allowed us to examine whether the seven factor structure associated with the newly developed instrument held up in an independent sample of active entrepreneurs. Amos 22 was again used to evaluate the fit of the measurement model. We computed the same goodness-of-fit indices as were computed in Study 3.

We also obtained additional construct validity evidence by examining the association between entrepreneurial fear of failure and theoretically relevant outcomes (criterion-related validity) (Cronbach & Meehl, 1955). We considered the relationship between entrepreneurial fear of failure and affective outcomes. Psychological research suggests that people who perform while experiencing fear of failure are more likely to experience negative consequences for psychological wellbeing and subjective wellbeing (e.g. Elliot et al., 1997). Psychological wellbeing is characterized by having positive relationships with others, autonomy, environmental mastery, self-acceptance, purpose in life, and personal growth (Ryff, 1989). Subjective wellbeing, instead, refers to the prevalence of positive affect over negative affect, an indicator of life satisfaction (Diener, Emmons, Larson, & Griffin, 1985; Diener, Suh, Lucas, & Smith, 1999). Entrepreneurship research has also demonstrated that the mental and physical challenge that starting a business requires has detrimental effects on entrepreneur's psychological and subjective wellbeing (Baron et al., 2013; Boyd and Gumpert, 1983; Chay, 1993; Uy, Foo, & Song, 2013). Since fear of failure has been found to amplify the effect of

stress (Klauckien & Patzelt, 2009), we expected entrepreneurial fear of failure to be negatively related to psychological and subjective wellbeing.

4.5.4.1 Data Collection and Sample

In this study, data were collected from a sample of 112 active entrepreneurs. This provided a strong context for replication because it allowed us to assess the newly developed instrument and further test its construct validity in a sample of people actually involved in the entrepreneurial process. Entrepreneurs were contacted through incubators in UK and Italy. They were first contacted to explain the purpose of the study and request their participation. Upon their approval, we sent instructions and link to the online survey (see Appendix B). In this phase, we stressed the importance of honest answers and guaranteed anonymity in the data-collection procedure. Of the total sample, the average participant age was 37, 71% were men and 29% were women, 60% were starting a business for the first time and 40% had previous start-up experience.

4.5.4.2 Measures

Entrepreneurial fear of failure. We used the 21-item scale developed in Study 2 and refined in Study 3. The scale showed good reliability ($\alpha = .88$).

Psychological wellbeing. Psychological well-being was assessed by the use of the 12-item version of the Goldberg Health Questionnaire (GHQ) (Goldberg, 1978). Respondents were asked to rate questions about their psychological wellbeing, using a 4-point response format. The scale anchors were as follows: 1 (not at all); 2 (a little), 3 (sometimes), and 4 (much more than usual). The α coefficient for the GHQ scale was .76.

Subjective wellbeing. A measure of subjective wellbeing was adopted from the 5-item Satisfaction with Life Scale (SWLS) ($\alpha = .80$) developed by Diener, Emmons, Larson and Griffin (1985) and assessed on a scale of 1 to 7, where 1= strongly disagree and 7= strongly agree⁷.

4.5.4.3 Results

4.5.4.3.1 Confirming the Dimensionality of Entrepreneurial Fear of Failure Scale

We conducted CFA to replicate the factor structure of entrepreneurial fear of failure measure. As in Study 3, we used the covariance matrix as input, and maximum likelihood estimation to obtain the parameters. Goodness-of-fit indices ($\chi^2/df = 1.52$, $p < 0.01$; GFI = .84; RMR = .09; SRMR = .07; IFI = .93; TLI = .91; RMSEA = .06; and CFI = .93) showed acceptable model fit (Anderson & Gerbing, 1988). To again provide cross-validation evidence for our seven factor model, we contrasted these fit indices with those of a 1 factor model. The results of the one factor model resulted in poor fit indices ($\chi^2/df = 4.82$, $p < 0.01$; GFI = .54; RMR = .21; SRMR = .15; IFI = .44 ; TLI = .37 ; RMSEA = .18; and CFI = .42). These results support the seven factor model.

Factor loadings, means, standard deviations, and coefficient alphas are reported in Table 4.10. The results show good levels of reliability for each entrepreneurial fear of failure dimension in this sample: financial security (.82), ability to fund the venture (.89), personal ability(.85), opportunity costs (.81), potential of the idea (.85), threat to social esteem (.86), and venture's ability to execute (.76). Intercorrelations among the seven entrepreneurial fear of failure dimensions are reported in Table 4.11. According to J. Cohen & Cohen (1983), the average intercorrelation among these dimensions was moderate ($r = .30$; range = .08 to .60), confirming that the dimensions are relatively independent.

⁷ Items of each scale used in Study 3 and Study 4 are reported in Appendix C.

Table 4.10 Studies 4: Item Means, Standard Deviations, Loadings, and Reliabilities of the EFF Scale

Item	TSE	FS	F	OC	POI	PA	AE	M	SD
21...of disappointing the people who are important to me	.85	-	-	-	-	-	-	2.74	1.18
15...of losing the trust of people who are important to me	.85	-	-	-	-	-	-	2.54	1.25
17...of other people's expectations of me	.78	-	-	-	-	-	-	2.73	1.12
3...of running out of money	-	.92	-	-	-	-	-	3.49	1.19
7...of losing all my savings	-	.79	-	-	-	-	-	2.96	1.28
2...of losing all I have invested in the business	-	.70	-	-	-	-	-	2.79	1.24
42...of not being able to get the required funding for the business	-	-	-.91	-	-	-	-	3.40	1.13
36...of not getting enough funding to move the company forward	-	-	-.89	-	-	-	-	3.42	1.12
37...of not being able to finance the business	-	-	-.79	-	-	-	-	3.46	1.11
30...of missing important events of my life because of my business	-	-	-	.86	-	-	-	2.87	1.19
31...of not being able to spend enough time with my family and friends	-	-	-	.86	-	-	-	3.31	1.13
35...that running this business is taking my time away from other activities	-	-	-	.77	-	-	-	2.92	1.19
23...that there is no need for our product/service out there	-	-	-	-	.87	-	-	2.55	1.19
25...that this is not a valuable business idea	-	-	-	-	.85	-	-	2.71	1.22
26...that no one will be interested in the product/service	-	-	-	-	.85	-	-	2.90	1.26
10...of not being able to fulfil all the roles that this job requires	-	-	-	-	-	.86	-	2.81	1.15
9...of not being able to manage the business effectively	-	-	-	-	-	.72	-	3.17	1.15
11...of not being able to manage people effectively	-	-	-	-	-	.63	-	3.13	1.07
48...deliver upon promises	-	-	-	-	-	-	.79	3.04	1.13
45...overcome technical challenges	-	-	-	-	-	-	.75	2.83	1.21
47...meet client expectations	-	-	-	-	-	-	.73	3.11	1.09
α	.89	.81	.85	.86	.82	.85	.76		

Note.EFF= Entrepreneurial fear of failure; F= Ability to fund the venture; OC= Opportunity costs; POI= Potential of the idea; TSE= Threat to social esteem; FS= Financial security; PA= Personal ability; AE= Venture's ability to execute. N= 112. All items loaded significantly on their respective factors ($p < .001$).

Table 4.11 Study 4: Correlations among Entrepreneurial Fear of Failure Dimensions

EFF Dimension	1	2	3	4	5	6	7
1.Threat to social esteem	-						
2. Financial security	.27**	-					
3. Ability to fund the venture	.18	.44**	-				
4.Opportunity costs	.34**	.22*	.19*	-			
5. Potential of the idea	.43**	.24**	.12	.25**	-		
6.Personal ability	.51**	.11	.35**	.28**	.40**	-	
7.Venture's ability to execute	.43**	.08	.33**	.16	.38**	.60**	-

Note. N= 112.

* p < .05. ** p < .01.

4.5.4.3.2 Criterion-related Validity

To assess criterion-related validity of the new measure, we computed the correlations among entrepreneurial fear of failure dimensions and psychological and subjective wellbeing. As expected, psychological wellbeing was negatively correlated with all seven dimensions of entrepreneurial fear of failure (see Table 4.12). Surprisingly, subjective wellbeing was significantly negatively correlated only with financial security ($r = -.42$; $p < .01$), ability to fund the venture ($r = -.36$; $p < .01$), personal ability ($r = -.23$; $p < .05$), and threat to social esteem ($r = -.20$; $p < .05$). However, both psychological and subjective wellbeing showed negative and significant correlations with a composite measure of entrepreneurial fear of failure ($r = -.55$, $p < .01$; $r = -.35$, $p < .01$). These results supported our expectations with respect to criterion-related validity of the new measurement instrument.

Table 4.12 Study 4: Correlation among EFF Dimensions and Theoretically Related Constructs

EFF Dimensions	PWB	SWB
Threat to social esteem	-.41**	-.20*
Financial security	-.31**	-.42**
Ability to fund the venture	-.20*	-.36**
Opportunity costs	-.33**	-.15
Potential of the idea	-.34**	-.11
Personal ability	-.48**	-.23*
Venture's ability to Execute	-.38**	-.09
General Entrepreneurial Fear of failure	-.55**	-.35**
M	3.31	4.67
SD	.34	1.07

Note. EFF= Entrepreneurial fear of failure; PWB= Psychological wellbeing; SWB= Subjective wellbeing.

N= 112.

* $p < .05$. ** $p < .01$.

4.6 Discussion and Conclusion

The purpose of this study was to develop a multidimensional survey instrument that could better assess the temporary state or experience of fear of failure in entrepreneurship than could existing measures of this construct. The scale development and validation process involved the use of four independent samples and resulted in a seven dimension measurement instrument. In the first stage of the construct validity process, an analysis of 65 interviews of potential and active entrepreneurs showed seven themes related to the concept of entrepreneurial fear of failure. An exploratory factor analysis in a second sample (N= 211) only provided evidence for a six factor model. However, a confirmatory factor analysis using maximum likelihood estimation in Amos 22 in a third sample (N=146) provided evidence that a seven factor structure better fit the data than a six factor model. The seven factors reflected fears over financial security, the ability to fund the venture, personal ability, threat to social esteem, opportunity costs, potential of the idea, and the venture's ability to execute. The seven factor model was then cross-validated in a forth sample (N= 112).

Evidence for the construct validity of our new measure was also found by assessing

convergent, discriminant, and criterion-related validity. We found that entrepreneurial fear of failure dimensions had moderate relationships with theoretically similar constructs such as the PFAI and a state anxiety measure. Furthermore, entrepreneurial fear of failure dimensions were negatively and not highly correlated with distinct but theoretically related constructs such as self-efficacy, entrepreneurial self-efficacy, and self-esteem. Finally, in an independent sample, our new instrument showed criterion-related validity, as it was correlated with measures of theoretically related outcomes, such as psychological and subjective well-being. An exception to the criterion-related validity evidence was the lack of significant correlations between potential of the idea, opportunity costs, and venture's ability to execute and subjective wellbeing. We believe that these findings are symptomatic of the complexity of the entrepreneurial fear of failure construct, in that the dualistic nature of its consequences (e.g. approach versus avoidance) can depend on the diversity of its sources (e.g. Mitchell and Shepherd, 2011). We invite future research to investigate the different affective, cognitive, and behavioral implications of the seven entrepreneurial fear of failure dimensions.

Furthermore, based on the current findings, an important need for future research is to incorporate entrepreneurial fear of failure into the process-oriented perspective on entrepreneurship (McMullen & Dimov, 2013). Entrepreneurship is a dynamic process characterized by events that occur over time (Shane, Locke, & Collins, 2003). The entrepreneur is the person who makes those events happen (e.g. raising money for the venture, prototyping, hiring people) and to which events occur (e.g. getting money from investors, winning a contract, losing a client) (Van de Ven & Engleman, 2004:351). Each event demands a certain level of interaction between the person and the environment (Dimov, 2007) and implies a certain level of emotional involvement (Baron, 2008). Looking for funding, developing a product/service, building your entrepreneurial team, deciding to spend your time and money in the venture represent

important happenings that can trigger your fears of failing, producing a change in your emotional state (Weiss and Cropanzano, 1996). However, specific events may simulate specific entrepreneurial fears of failing. For example, entrepreneurs are more likely to be afraid of not being able to obtain the funding for their venture, when they are engaged in a raising funding activity. Similarly, they can be less worried about the ability of their team to manage the client expectations in the very early days of their venture, when a product has yet to be fully developed and tested. This effect emphasizes the role of the single entrepreneurial fear of failure dimensions in relationship with the different stages of the entrepreneurial process.

Building on this assumption, researchers cannot rely on static designs to examine the effect of fear of failure on entrepreneurship (Shane et al., 2003). Existing entrepreneurship research assumes that fear of failure influences all steps of the entrepreneurial process in the same way, and that the main effect of fear of failure is to select out some people at earlier stages in the process (e.g. Arenius & Minniti, 2005; Brixy et al., 2012; Minniti & Nardone, 2007; Langowitz & Minniti, 2007; Wagner, 2007). We suggest that a more dynamic approach to the study of entrepreneurial fear of failure can shed light on the real effects of this phenomenon in entrepreneurship. This would require not only to examine the effect of fear of failure on specific entrepreneurial decisions, tasks, and actions but also to control for other interaction mechanisms between the entrepreneur and the entrepreneurial process. For example, it would be interesting to investigate how the capability of specific events to trigger entrepreneurial fear of failure may change as a function of the entrepreneur's level of commitment to the venture. This is important since the financial, social and emotional costs associated with failing can vary with the level of attachment and identification with the venture (e.g. Cardon Zietsma, Saporito, Matherne, & Davis, 2005; Shephard et al., 2009). Losing a client in the early days of the venture could be less fear arousing

than losing one in the later stages. It would be also interesting to consider the effect of the person-situation learning match on the entrepreneurial fear of failure experience (Dimov, 2007). Repeated experience of the same event might not have the same fear-arousing effect (Morris, Kuratko, Schindehutte, & Spivack, 2012). Losing a client for the second time could be less traumatic than it was the first time, especially if the entrepreneur learned to cope with it from previous experience. Although considering these interaction mechanisms may increase the level of complexity in the study of fear of failure in entrepreneurship, it would be more consistent with the dynamic and episodic nature of the entrepreneurial process.

Future research should also address the limitations inherent in the present study. First, the use of cross-sectional data does not allow us to make cause-and-effect inferences. Future research must assess the predictive validity of our measure through longitudinal research. This would provide further evidence of the construct validity. Second, a final scale of 21 items resulted in a long measurement instrument. Because shorter measures place less of a burden on respondents, we encourage the development of a more user-friendly form of entrepreneurial fear of failure measure. To understand the potential for brevity without compromising reliability (DeVellis, 2003), we assessed the relationship between a long and short form of our measure. In Study 4, we selected the item with the highest loading in each dimension and computed a short measure of entrepreneurial fear of failure by all item unit weighting (Nunnally, 1978). We then correlated this measure with the original 21-item scale of entrepreneurial fear of failure. Although we found the two scales to be highly correlated ($r = .94$; $p < .01$), they differed in terms of reliability. Coefficient alpha went from .88 to .66. These results raise concerns about the optimal trade-off between brevity and reliability (DeVellis, 2003). Additional research is certainly needed to understand whether reducing the length of the entrepreneurial fear of failure measure is possible without

reducing its reliability.

Another concern in the present study may be the relatively modest sample size for Study 3 and Study 4. Some researchers assume that large sample sizes are necessary to provide stable parameter estimates in CFA (Bentler, 1995). Although we collected less than 200 responses in both studies, our analyses showed acceptable model fit ($\chi^2/df=1.74$, $p<0.01$; GFI= .84; RMR= .09; SRMR= .06; IFI= .90; TLI= .87; RMSEA= .07; and CFI= .90) in Study 3, and good model fit ($\chi^2/df= 1.52$, $p<0.01$; GFI= .84; RMR= .09; SRMR= .07; IFI= .93; TLI= .91; RMSEA= .06; and CFI= .93) in Study 4. Because of these results, we felt comfortable with confirming the seven factor model. However, a replication study with a larger sample would prove more stability of our final factor solution.

Notwithstanding these limitations, our new measure is an improvement over the current state of the existing entrepreneurship literature for at least three reasons. First, so far, instruments measuring fear of failure in entrepreneurship have been using different conceptualizations of the same construct. If these measures differ in the nature of the construct they refer to, it will be very unlikely that they converge to capture the same phenomenon. Our measure emerges from an inductive empirical investigation to occupy the conceptual space we call fear of failure in entrepreneurship. Second, unidimensional instruments such as the GEM survey item and the PANAS-X have been used to measure a multidimensional construct, causing questionable validity of the existing findings on the relationship between fear of failure and entrepreneurship. By proposing a multidimensional measure of entrepreneurial fear of failure, we maintain consistency with the psychology tradition and avoid the methodological limitations that occur when a unidimensional measure is used to assess a multifaceted construct. Third, instruments used to measure fear of failure within the entrepreneurship domain cannot ignore the context sensitivity of this phenomenon. Entrepreneurship differs from other

achievement contexts such as sport and education settings, and this reflects in our measure, where the different dimensions of entrepreneurial fear of failure do not completely overlap with existing multidimensional measures such as the PFAI. This highlights the uniqueness of entrepreneurial fear of failure as measure and concept. We hope that clarifying these issues and providing a new measure will encourage entrepreneurship scholars to better define the role of fear of failure in entrepreneurship.

4.7 References

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4.8 Appendix

4.8.1 - A. Invitation to the Survey used in Study 2 and Study 3

Calling Entrepreneurs and Potential Entrepreneurs

We need volunteers for a research study in entrepreneurship

The survey requires just 15 minutes to complete.

In return for your participation:

- You will be entered in a prize draw (Prizes: 3x£50; 4x£40 Amazon Gift Vouchers).
- You will receive a short report outlining our research, what we learn from this study, and what we will be doing next.

The goal of this study is to refine a measure of entrepreneurial thoughts related to failure. Your honest answers will help us to select the best questions to use in a shorter, final measure. With your help, we can develop a good measure!

The survey asks about your thoughts related to your entrepreneurial activities over the past few months.

Please consider participating if:

you are an active entrepreneur, or

you have been thinking about a new entrepreneurial idea, even if you have not yet started your business or

you have been thinking about a venture in the past few months, but have chosen not to start

To complete the survey, please click

https://wbs.qualtrics.com/SE/?SID=SV_eRP9QOkGFHovzdH

The WBS research team

Professor James Hayton and Gabriella Cacciotti

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4.8.2 - B. Invitation to the Survey used in Study 4.

Calling Entrepreneurs

We need volunteers for a research study on failure and wellbeing in entrepreneurship.

The survey requires just 15 minutes to complete.

In return for your participation you will receive a report outlining our research, through which we examine entrepreneurial thoughts related to failure and explain their impact on personal wellbeing.

The survey asks about your thoughts related to your entrepreneurial activities OVER THE PAST FEW MONTHS.

To complete the survey, please click:

https://wbs.qualtrics.com/SE/?SID=SV_4SGvT51sYTeKgqV

Thank you for your time.

The WBS research team

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4.8.3 - C. Scales

Performance Failure Appraisal Inventory (Conroy et al., 2002; 2003)

When I am failing, I am afraid that I might not have enough talent

When I am failing, it upsets my “plan” for the future

When I am not succeeding, people are less interested in me

When I am failing, important others are disappointed

When I am failing, I worry about what others think about me

State Anxiety Inventory (Spielberger, 1983)

I feel calm

I feel secure

I feel tense

I feel strained

I feel at ease
I feel upset
I am presently worrying over possible misfortunes
I feel satisfied
I feel frightened
I feel comfortable
I feel self-confident
I feel nervous
I am jittery
I feel Indecisive
I am relaxed
I feel content
I am worried
I feel confused
I feel steady
I feel content

Self Esteem Scale (Rosenberg 1965)

On the whole, I am satisfied with myself
At times, I think I am no good at all (r)
I feel that I have a number of good qualities
I am able to do things as well as most other people
I feel I do not have much to be proud of (r)
I certainly feel useless at times (r)
I feel that I'm a person of worth, at least on an equal plane with others
I wish I could have more respect for myself (r)
All in all, I am inclined to feel that I am a failure (r)
I take a positive attitude toward myself

Generalized Self Efficacy Scale (Chen et al., 2004)

I will be able to achieve most of the goals that I have set for myself
When facing difficult tasks, I am certain that I will accomplish them
In general, I think that I can obtain outcomes that are important to me
I believe I can succeed at most any endeavor to which I set my mind
I will be able to successfully overcome many challenges
I am confident that I can perform effectively on many different tasks
Compared to other people, I can do most tasks very well
Even when things are tough, I can perform quite well

Entrepreneurial Self Efficacy Scale (Vesper, 1996)

I am able to select opportunities that are most likely to be profitable
I have a knack for pursuing the right opportunities
I have the necessary abilities to make an investment succeed
I am good at developing new products or services
I am able to gain access to the resources necessary to successfully exploit an opportunity
I am good at knowing who the right people are to help implement a new product or service
I am able to overcome the challenges associated with pursuing a new product or service
I can make an investment succeed in the face of uncertainty

Psychological wellbeing 12 items of the General Health Questionnaire (GHQ-12, Goldberg, 1978)

Have you recently been able to concentrate on what you were doing?
Have you recently felt that you were playing a useful part in things?
Have you recently felt capable of making decisions about things?
Have you recently been able to enjoy your normal day-to-day activities?
Have you recently been able to face up to your problems?
Have you recently been reasonably happy, all things considered?
Have you recently lost much sleep over worry?

Have you recently felt constantly under strain?

Have you recently felt you could not overcome your difficulties?

Have you recently been feeling unhappy and depressed?

Have you recently been losing confidence in yourself?

Have you recently been thinking of yourself as a worthless person?

Satisfaction with Life Scale (Diener et al., 1984)

In most ways my life is close to my ideal

The conditions of my life are excellent

I am satisfied with my life

So far I have gotten the important things I want in life

If I could live my life over, I would change almost nothing

CHAPTER 5

5. GENERAL DISCUSSION

5.1 Introduction

Entrepreneurship is, at its heart, a scary thing: people decide to take the plunge into the unknown to pursue an idea, a dream, a passion. However, there is something really powerful in the idea that the fear of falling (or failing) and getting hurt may accompany the entrepreneurial experience. The fear of failure can certainly prevent people from jumping, but if they do, fear of failure will jump with them. From then on, it becomes a travelling companion whose uncomfortable presence increases as people increase their commitment to the journey. This presence influences decisions, actions, and reactions to all that happens on the road. People can succumb to it, fight back, or repress. In any case, the journey will be the result of a mutual adjustment.

Consideration of fear of failure as a companion of the entrepreneurial experience brings up a renewed interest in understanding this phenomenon in entrepreneurship. First, fear of failure cannot be simply defined as an enduring disposition. It is a passing state which emerges and subsides in response to changing environmental cues. This implies a need to reconsider its nature. Second, fear of failure does not simply prevent people from starting a business: it is concurrent to the entrepreneurial process and influences entrepreneurial outcomes at different stages of the venture. This implies the need to also reconsider the effects of this construct. The reconsideration of the nature and effects of fear of failure has been the main theme of the present thesis and has resulted in a more comprehensive conceptualization of fear of failure in entrepreneurship and a more valid and reliable tool to measure it. The main results about the nature, effects, and measurement of fear of failure in entrepreneurship that emerged from the three articles are summarized next.

5.2 The Nature of Fear of Failure in Entrepreneurship

Fear of failure in entrepreneurship can be defined as the appraisal of potential threats to success and aversive consequences of failing which activates affective reactions (positive and negative) and generates behavioral responses (approach, avoid, and repress) (see Article 2). This definition emphasizes not only the temporary nature but also the origin of this phenomenon which stems from the relationship between the person and the environment (Lazarus, 1991). Accordingly, the person and the context have to be considered as a single unit to shed light on the fear of failure experience in entrepreneurship (see Article 1).

The entrepreneurship domain influences several aspects of the nature of the fear of failure phenomenon. First, failing in the entrepreneurship is mainly considered a bad experience (Goffman, 1963). Despite recent efforts to identify failure as a learning opportunity (e.g., Cope, 2011; Shepherd, Wiklund, & Haynie, 2009), fear of failure remains the most common fear among potential and active entrepreneurs (see Article 1 and Article 2). Second, cause and cognitive content of fear of failure in entrepreneurship are venture-related opportunities, entrepreneurial tasks, decisions, and actions, whose characteristics contribute to activate the fearful experience (see Article 3). Third, although failure is what entrepreneurs fear the most, it is very hard to specify, as it involves subjective and idiosyncratic judgements as to what constitutes failing in business (McGrath, 1999). This changes the way we think about fear of failing in entrepreneurship compared to the same experience in other achievement contexts (see Article 3). Fourth, the sources of the fear of failure experience in entrepreneurship are different from those recognized by existing models of fear of failure. The multidimensionality of this construct has been already discussed in psychological

research (e.g. Birney et al., 1969; Conroy, 2001). However, the uniqueness of the entrepreneurship context has contributed to describe the fear of failure experience as emerging from the appraisal of seven sources: financial security, ability to fund the venture, threat to social esteem, personal ability, opportunity costs, potential of the idea, and venture's ability to execute. These sources are strongly related to the features of the entrepreneurship domain, which provided an opportunity for theory development (see Article 2 and Article 3). Finally, entrepreneurship is a process characterized by events that follow one another (Davidsson, 2005; Dimov, 2007). Different events can stimulate different sources of fear of failure. This process-oriented perspective on entrepreneurship gives fear of failure a temporal dynamism, which is reflected in the repetitive experience of this phenomenon throughout the different stages of the venture (see Article 2 and Article 3).

5.3 The Effects of Fear of Failure in Entrepreneurship

The dominant assumption within the entrepreneurship research is that fear of failure is always detrimental to entrepreneurship. This is especially true when it is identified as a barrier to entrepreneurial action and approached as something people should not have in order to start a business. This thesis shows that this is not always the case and provides evidence to revise that assumption and change the purely negative connotation attached to this construct within the entrepreneurship literature.

It cannot be denied that fear of failure influences the decision to start a business. Fear of failure can demotivate people to follow their entrepreneurial aspiration. However, it is rarely indicated as the main cause for not pursuing an entrepreneurial idea (see Article 2). This suggests that, to work as a barrier, fear of failure has to be added to a list of

other elements that make entrepreneurship less likely to occur and increase the level of uncertainty of an entrepreneurial career (e.g., lack of money or lack of an idea).

Nevertheless, the effects of fear of failure go beyond the decision to start a business. People experience fear of failure while making different entrepreneurial decisions and performing different entrepreneurial actions. Consistent with the psychological theory, fear of failure can lead to approach specific tasks with more vigour, or avoid specific actions during the entrepreneurial process (see Article 2). The same person can swing from one behavioral response to another, depending on the type of decision or action that has to be undertaken at a certain stage of the venture (see Article 1 and Article 2). This suggests that the effects of failure of failure vary in relationship with the dynamism of the entrepreneurial process (see Article 2 and Article 3).

Fear of failure also influences entrepreneurial outcomes such as the venture performance and the entrepreneur's wellbeing. Evidence from this thesis shows that it is very hard to establish whether the effects of fear or failure are positive or negative for the venture's success (see Article 2). These results are consistent with the idea that the better way to assess the effects of motivational variables on the entrepreneurial process is to focus on their relationship with specific decisions, tasks, or actions, and not on their relationship with the financial performance of the firm (Shane et al., 2003). Evidence from this thesis also shows that the experience of fear of failure is responsible for decreasing the entrepreneur's psychological and subjective wellbeing (see Article 2 and Article 3). However, this influence is not consistent across the seven dimensions of the cognitive component of the fear of failure construct in entrepreneurship (see Article 3). This is a result that highlights the need to investigate on the differential effects of these dimensions on entrepreneurial outcomes.

5.4 Measuring Fear of failure in Entrepreneurship

The present research depicts the fear of failure experience as a process of appraising internal and external events and reacting affectively and behaviorally (see Article 2). This conceptualization moves away from simplistic categorizations of fear of failure as a discrete emotion, or a trait that distinguishes ‘those that do’ from ‘those that don’t’. Therefore, it offers the opportunity to re-think about how fear of failure has been measured within the existing entrepreneurship literature and suggest a new way to assess this phenomenon.

Because fear of failure is a complex combination of cognition, affect and behavior, we need to capture all these elements in order to measure the whole fear of failure experience. Fear of failure can lead to inhibition, motivation, or repression (see Article 2). However, how we measure such behavioral responses depends on the type of behavioral decision, task or action we are considering as being influenced by the fear of failure experience (see Article 1 and Article 3). This starts with the appraisal of seven sources of fear of failure which represent potential threats to success and aversive consequences of failing within the entrepreneurship domain (see Article 2). This cognitive process of appraisal is captured by the entrepreneurial fear of failure scale which reflects the multidimensionality of this phenomenon in entrepreneurship (see Article 3).

Once internal and external cues are appraised as being a threat to potential success and/or a cause of failure, people can manifest a feeling of stress, depression, and frustration, but also excitement, which accompany their primary fearful reaction. Although affective reactions can be assessed by existing measures of positive and negative affectivity such as the PANAS (Watson, Clark, & Tellegen, 1988) or the JAWBS (Van Katwyk, Fox, Spector, & Kelloway, 2000), it is important to understand

the limitations of these measurement tools. First, it is very hard to establish that positive and negative affect is experienced in reaction to the process of cognitive appraisal of a specific internal or external threat. Because these measures are retrospective (the entrepreneurial fear of failure included), it is not realistic to assume that participants accurately recall every aspect of a "real-time emotional experience and then read off details from a perfectly faithful mental representation of that episode" (Schorr, 2001:337). With the entrepreneurial fear of failure scale it is possible to overcome this problem by addressing subjects to recall salient (e.g., concerns of financial security, doubts on the potential of the idea, concerns over the ability to fund the venture, etc.) and recent ("in the past few months") events that represents emotional encounters ("I have been afraid"). Second, measures of positive and negative affectivity do not allow to distinguish specific emotions and their differential nature. The theoretical infrastructures upon which these measures were developed have been criticized by psychological research (Russell, 2003; Zevon & Tellegen, 1982). In this respect, the appraisal theory of emotions was proposed to address questions regarding the need to account for the differential nature of emotional responses, to explain individual and temporal differences in emotional responses to the same event, to understand what starts the process of emotional response, and to explain the appropriateness of emotional responses to the situations in which they occur (Roseman & Smith, 2001). The theory suggests that these questions can be answered by focusing on the process of cognitive appraisal to understand where emotions come from, their nature, and their effects on cognition and behavior. Therefore, although it is important to theoretically recognize the presence of a cognitive and an affective component in the fear of failure experience (Weiss & Cropanzano, 1996), it is sufficient, and more valid and reliable, to assess only the cognitive process of appraisal of internal and external cues that elicit the fearful reactions, as suggested by the appraisal theory of emotions (Lazarus, 1991).

Another important thing to consider when assessing the impact fear of failure on entrepreneurial behavior and outcomes is the temporal dynamism of this phenomenon generated by the process nature of entrepreneurship (see Article 1, Article 2, and Article 3). Mechanisms such as increased level of commitment to the venture and learning from previous experience can interfere with the fear of failure phenomenon by changing its intensity and level of behavioral impact throughout the entrepreneurial process. This implies a need to control for those mechanisms when assessing fear of failure in entrepreneurship as well as the phase of the entrepreneurial process people are engaged in (see Article 3).

5.6 Theoretical Implication and Future Research Directions

The new conceptualization and operationalization of fear of failure in entrepreneurship offers important benefits for the entrepreneurship research on this phenomenon. These are outlined below.

First, the conceptualization of fear of failure as a passing states gives the opportunity to better explain the dualistic nature of fear of failure, manifested in approach as well as avoidance behaviour. Psychological research suggests that a dispositional approach alone is less useful, in particular because without introducing mediating constructs it cannot explain why individuals with the motive to avoid failure might also decide to approach (see Article 1 and Article 3). Furthermore, the conceptualization of fear of failure as temporary cognitive and affective experience allows us to observe its connection with those dispositions that reflect avoidance and approach tendencies. Among those personality traits that are expected to influence people's affectivity (Revelle, 1995), neuroticism and extraversion have been traditionally associated with

negative emotionality and positive emotionality variables, respectively (see Carver, Sutton, & Scheier, 2000; Clark & Watson, 1999; Tellegen, 1985; Watson & Clark, 1993). These two personality traits are representative of a general neurobiological sensitivity to undesirable/desirable (negative/positive) stimuli (present or imagined) that is followed by perceptual vigilance for, affective reactivity to, and a behavioral predisposition away/toward such stimuli (Elliot & Thrash, 2004; McCrea & Costa, 1987). Because they are conceptually linked with avoidance and approach dispositions (Eysenck & Eysenck, 1985), neuroticism and extraversion could be hypothesized to be antecedents of entrepreneurial fear of failure as they predispose the individual to the perception of external threats. Specifically, neuroticism could amplify such perception and, thus, be positively related with entrepreneurial fear of failure. Conversely, extraversion could reduce threat perception and, as such, have a negative relationship with entrepreneurial fear of failure. The relationship between the temporary experience of fear of failure and these dispositions should be addressed in future research.

Second, defining fear of failure as something that can be experienced at any stage of the entrepreneurial process opens up a number of opportunities to consider different outcomes of this phenomenon that existing entrepreneurship literature on fear of failure has ignored so far. For example, it is now possible to examine the relationship between fear of failure and any task or action that might be undertaken during the entrepreneurial process (Atkinson, 1957). It would also be interesting to observe how fear of failure influences individual's level of effort on a specific entrepreneurial task and how that might change over time. Although fear of failure may initially prevent people from starting a business, it might motivate an increased level of effort at later stages, when the commitment to the venture is higher. However, the fear of failure experience,

combined with a high attachment to the venture, might be responsible for individuals' persistence with a chosen course of actions, despite negative results.

The experience of fear of failure during the entrepreneurship journey can also influence individuals' coping responses. Coping theories predict that when external circumstances are appraised as being harmful to personal goal attainment, the emotional process (e.g. fear of failure) is activated and prepares individuals to respond with impulsive behavior. However, before following their action tendencies, individuals engage in coping processes, strategic actions or thoughts that can prevent harm, ameliorate it, or produce additional harm or benefit (Lazarus, 1991). Coping refers to “constantly changing cognitive and behavioural efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person” (Lazarus and Folkman 1984: p. 141). Therefore, when individuals experience fear of failure they may engage with behavioral as well as cognitive coping responses to adapt to stressful situations (Abraido-Lanza, Vasquez, & Echeverria, 2004; Li & Yand, 2009). Examples of coping responses may consist of approaching the situation by engaging in a plan of actions, avoiding the situation by engaging in distractive activities, or seeking emotional support (Folkman & Lazarus, 1980; Stroebe & Schut, 1999). Hence, the experience of entrepreneurial fear of failure can lead people to engage with these different coping strategies in order to cope with the stressful situation generated by perception of potential threats and causes of failure. A process-oriented research design (McMullen & Dimov, 2013) would help understand how people react to real-time events and cope with fear of failure as the venture unfolds.

An examination of the coping responses to potential failure would also help better understand the impact of fear of failure on individuals' psychological and subjective wellbeing. The entrepreneurial process is often characterized by setbacks and small

failures that overshadow the sense of success and nourish the fear of failing. This scenario forces individuals to constantly cope with stressful situations and live with persistent worry and anxiety. As time goes by, this may undermine their intrinsic satisfaction (Covington, 1992) and be damaging for their health and wellbeing: “even though performance may be unimpaired, the journey is far from pleasant” (Martin & Marsh, 2003: 32). However, psychological research has found that most people have a place where there is enough anxiety to make them alert and motivated to push themselves to perform well, but not so nervous that they feel debilitated (Davids & Eriksen, 1955; Martin & Marsh, 2003). Reaching *that place* for entrepreneurs is extremely important because they can respond to anxiety-producing situations by increasing their productivity, without compromising their wellbeing. However, finding this intricate balance between overwrought anxiety and overconfidence may prove to be difficult, especially in a dynamic environment such as the entrepreneurial context. This is another challenge for future research.

Third, the conceptualization of fear of failure as a context-sensitive phenomenon suggests that this constructs requires further exploration in other similar contexts such as family business and corporate entrepreneurship (see Article1). This might be especially true for the entrepreneurial fear of failure scale. Because the fear of failure experience is strongly influenced by the context, it is important to understand to which extent potential threats to success and aversive consequences of failing can be considered as such in similar but different entrepreneurial settings. For example, it is very unlikely that people within an organization attribute their fear of failure to lack of financial security. Once operational concerns have been addressed, it might be interesting to assess the relationship between fear of failure and employees' intention to

propose, champion or sponsor new ideas. These and other outcomes can be addressed by future research.

5.7 Practical Implications

The present research has implications for potential and active entrepreneurs facing an experience of fear of failure. Contrary to the view that fear of failure is a barrier to entrepreneurship, this thesis shows that it is actually part of the entrepreneurial journey. Existing entrepreneurship research emphasizes the importance of passion, optimism, need for achievement for entrepreneurial motivation (Cardon, Wincent, Sing, & Drnovsek, 2009; Hmieleski & Baron, 2009; Shane et al., 2003). Fear of failure also influences entrepreneurial motivation, but not always in the negative direction. In many cases, it can be linked with the decision to approach even more vigorously. Furthermore, it also has implications for entrepreneurial performance and wellbeing. Becoming aware of these consequences can help entrepreneurs adopt the most efficient coping approach. This is especially important for those who tend to repress the fear of failing. In this case, mentorship and other forms of instrumental and social support can be crucial.

Results from this research also have implications for entrepreneurship educators who are preparing future entrepreneurs to the challenges of the entrepreneurial process. As suggested by Shepherd (2004), educators should focus on students' feeling and emotions and their consequences for entrepreneurial actions. By exploring fear of failure as it is experienced in entrepreneurship, this thesis provides a more realistic perspective of this phenomenon than it has been provided in research so far. By giving awareness to the students that fear of failure is part of the life story of an entrepreneur, we can ease the

pressure of being 'heroes with no fear' and prepare future entrepreneurs to embrace the entrepreneurship journey with a more realistic perspective.

5.8 Concluding Remarks

The main purpose of this thesis was to provide a clear definition and measurement of fear of failure in entrepreneurship. In view of the results which have been presented and discussed in the preceding chapters, the following final conclusions may be drawn: fear of failure cannot be simply consider a barrier to entrepreneurship. It has to be described as a cognitive and affective experience that is part of the entrepreneurial process and, as such, can influence entrepreneurial decisions and actions at any stage of the venture. This reconceptualization aims to stimulate entrepreneurship scholars to use new approaches to the study of this phenomenon in entrepreneurship. Future investigations will also benefit from a new measure of this construct which is consistent with a more complete definition of the fear of failure experience within the entrepreneurial process.

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